THE IMPACT OF LABOUR-RELATED RISKS ON FINANCIAL INVESTMENT DECISION-MAKING REGARDING LONG-TERM INSURANCE ASSETS

By

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DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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ABSTRACT

Notwithstanding the importance of institutional financial investments and labour to the South African economy, relatively little attention has been paid by researchers to the interdependence of these two issues. As a result of this gap in the existing literature, a potential exists for inefficient financial investment decision-making by institutional investors with a resultant non-optimal allocation of valuable capital on the JSE Securities Exchange South Africa (previously known as Johannesburg Stock Exchange).

The objective of this study thus embodies the evaluation of the impact of labour-related risks on financial investment decision-making regarding long-term insurance assets, given the basic theory available in this regard, so that the resultant recommendations can lead to a better utilisation of the theory by investors in general. The resulting tasks of the study are as follows:

- To do a literature study of the basic theory available in this regard.
- To obtain information about the relevant aspects, by means of personal interviews with investment practitioners responsible for financial investment decision-making, as far as long-term insurance assets are concerned.
- To develop a tool that can be used to measure the degree of labour-related risk at enterprises for the purpose of financial investment decision-making.
- To make suitable recommendations based on the critical analysis of the obtained information.

Twenty-three interviews were conducted during March and the first half of April 1999 to cover the financial investment decision-making practices of the 47 participating long-term insurers, resulting in a 100 per cent response rate. The personal interviews were structured by using a written discussion guideline that was drafted with reference to the literature study. A distinction was made between the perceived labour-related risks in manual and knowledge worker enterprises. In addition to general information, the discussion guideline required the participating institutions to disclose information about the financial investment decision-making process in use at their institutions and to respond with regard to the perceived importance of various labour-related risk factors. The discussion guideline also required the participants to rank certain aspects in order of their significance when the degree of labour-related risk at enterprises is determined. Finally, questions were asked to determine the relative importance of labour-related risks in general when financial investment decisions are taken.

The information obtained during the interviews was summarised on an Excel spreadsheet and subjected to an elaborate statistical analysis to satisfy the objectives of the study. The majority of the data that were obtained during the survey are ordinal, because the discussion guideline made use of an ordinal level of measurement. With this in mind, the mean (as a measure of central tendency) and the range (as a measure of dispersion) are used to describe the data. Spearman's rank correlation coefficient is used as a measure of correlation. The sign test, being one of the simplest non-parametric tests, is used throughout the study to investigate whether the observed differences in opinion regarding manual worker and knowledge worker enterprises are significant.

The study highlights the significant role of long-term insurance assets on the JSE Securities Exchange South Africa, as well as the significant differences between manual and knowledge worker enterprises regarding the perceived importance of labour-related risk factors for the purpose of financial investment decision-making. The large number of labour-related risk factors and the existence of significant correlation between many of them reflects the complicated nature of labour-related risks. The respondents regard labour-related risks between moderately and highly important for manual and knowledge worker enterprises when financial investment decisions are taken. Classification trees are introduced as the preferred method to deal with these complexities and to measure labour-related risks in manual and knowledge worker enterprises for the purpose of financial investment decision-making. These classification trees are constructed based on the wealth of experience of investment practitioners active in the long-term insurance industry at the time of the survey and with reference to the literature study.

Generally, the most critical labour-related aspects to consider when the degree of labour-related risk at manual and knowledge worker enterprises is determined, are internal to these enterprises and can be managed. Management and the labour force of enterprises should take cognisance of their responsibilities in this regard and the perceived ability they have to significantly influence the degree of labour-related risk at manual and knowledge worker enterprises. Other role players also have important roles to play in this regard, given the impact of the external environment on the degree of labour-related risk. The responsibility of enterprises to disclose the information required by investors to determine the prevailing degree of labour-related risk at enterprises is matched by the responsibility of investment practitioners to request and rationally assess this information.

The resulting conclusions and recommendations of this study and the tool that is developed to measure the degree of labour-related risk at enterprises for the purpose of financial investment decision-making are largely based on the perceptions of investment practitioners active in the long-term insurance industry at the time of the survey. With this in mind, it is recommended that future research activities be aimed at enhancing the value of the classification trees developed in this study by applying the tree-growing method on actual cases where the variables can be measured and the eventual outcomes are determined.

SAMEVATTING

Desnieteenstaande die belangrikheid van institusionele finansiële beleggings en arbeid vir die Suid-Afrikaanse ekonomie, het navorsers tot dusver relatief min aandag aan die interafhanklikheid van hierdie twee aspekte gegee. Die leemte in die bestaande literatuur kan lei tot oneffektiewe finansiële beleggingsbesluitneming deur institusionele beleggers met die gevolg dat waardevolle kapitaal nie optimaal op die JSE Sekuriteitebeurs Suid-Afrika (voorheen bekend as die Johannesburgse Effektebeurs) verdeel word nie.

Die doelstelling van hierdie studie behels dus die beoordeling van arbeidsverwante risiko's se invloed op finansiële beleggingsbesluitneming met betrekking tot die bates van langtermynversekeraars, gegewe die basiese teorie beskikbaar in hierdie verband, sodat die voortspruitende aanbevelings kan lei tot 'n beter benutting van die teorie deur beleggers in die algemeen. Die take van die studie is as volg:

- Om 'n literatuurstudie te doen van die basiese teorie wat in hierdie verband beskikbaar is.
- Om inligting rakende die relevante aspekte te bekom deur middel van persoonlike onderhoude met beleggingspraktisyns wat vir beleggingsbesluitneming rakende die bates van langtermynversekeraars verantwoordelik is.
- Om 'n hulpmiddel te ontwikkel wat gebruik kan word om die graad van arbeidsverwante risiko in ondernemings te meet vir die doeleindes van beleggingsbesluitneming.
- Om toepaslike aanbevelings te maak op grond van die kritiese ontleding van die verkrygde inligting.

Drie en twintig onderhoude is gedurende Maart en die eerste helfte van April 1999 gevoer om die beleggingsbesluitnemingspraktyke van die 47 deelnemende langtermynversekeraars te dek. 'n Een honderd persent reaksiekoers is dus behaal. Die persoonlike onderhoude is gestruktureer deur gebruik te maak van 'n geskrewe besprekingsriglyn wat na aanleiding van die literatuurstudie opgestel is. 'n Onderskeid is tussen die waargenome arbeidsverwante risiko's gemaak waar hande-arbeiders en werknemers wat kennis aanwend in ondernemings werksaam is. Bo en behalwe algemene inligting, het die besprekingsriglyn ook van die deelnemende instellings gevra om inligting te openbaar rakende die beleggings-besluitnemingsproses deur hulle gebruik en om 'n mening uit te spreek omtrent die belangrikheid van 'n verskeidenheid arbeidsverwante risikofaktore. Die besprekingsriglyn het ook versoek dat die deelnemers sekere aspekte rangskik in terme van hul belang wanneer die graad van arbeidsverwante risiko by ondernemings bepaal word. Ten slotte is vrae gestel ten einde die relatiewe belangrikheid van arbeidsverwante risiko's in die algemeen te bepaal wanneer finansiële beleggingsbesluite geneem word.

Die inligting wat tydens die onderhoude verkry is, is op 'n Excel sigblad opgesom en aan 'n omvattende statistiese ontleding onderwerp ten einde die doelstellings van die studie te verwesenlik. Die data wat tydens die opname verkry is, is hoofsaaklik volgens 'n rangorde, aangesien die besprekingsriglyn van 'n ordinale vlak van meting gebruik gemaak het. Met dit in gedagte, is die gemiddelde (as 'n maatstaf van lokaliteit) en die variasiewydte (as 'n maatstaf van spreiding) gebruik om die data te beskryf. Spearman se rangorde korrelasiekoëffisient is as 'n maatstaf van korrelasie gebruik. Die tekentoets, een van die mees eenvoudige nie-parametriese toetse beskikbaar, is in die studie gebruik om ondersoek in

te stel of die waargenome verskille in mening rakende ondernemings waar hande-arbeiders en werknemers wat kennis aanwend, betekenisvol is.

Die studie beklemtoon die betekenisvolle rol wat die bates van langtermynversekeraars op die JSE Sekuriteitebeurs Suid-Afrika speel, sowel as die betekenisvolle verskille rakende die waargenome belangrikheid van arbeidsverwante risiko's vir die doeleindes van beleggingsbesluitneming waar ondernemings hande-arbeiders en werknemers wat kennis aanwend, in diens het. Die groot aantal arbeidsverwante risikofaktore en die betekenisvolle korrelasie wat tussen talle van hulle bestaan, dui op die komplekse aard van arbeidsverwante risiko's. Die respondente beskou arbeidsverwante risiko's as tussen redelik belangrik en hoogs belangrik vir sowel ondernemings met hande-arbeiders en dié met werknemers wat kennis aanwend wanneer beleggingsbesluite geneem word. Klassifikasiebome word bekend gestel as die gewenste metode om vir hierdie kompleksiteite voorsiening te maak en om arbeidsverwante risiko's in ondernemings wat hande-arbeiders en werknemers wat kennis aanwend, in diens het, vir die doeleindes van beleggingsbesluitneming te meet. Die klassifikasiebome word op grond van die omvangryke ervaring van beleggingspraktisyns (wat ten tye van die opname in die langtermynversekeringsbedryf bedrywig was) en met verwysing na die literatuurstudie opgestel.

Oor die algemeen is die mees kritiese arbeidsverwante aspekte wat oorweeg moet word ten einde die graad van arbeidsverwante risiko te bepaal by ondernemings met hande-arbeiders en dié met werknemers wat kennis aanwend, intern tot hierdie ondernemings. Sodanige aspekte kan gevolglik bestuur word. Bestuur en die arbeidsmag van ondernemings moet kennis neem van hul verantwoordelikhede in hierdie verband sowel as die waargenome vermoë wat hulle het om die graad van arbeidsverwante risiko by ondernemings wat hande-arbeiders en werknemers wat kennis aanwend, in diens het wesenlik te beïnvloed. Ander rolspelers speel ook 'n belangrike rol in hierdie verband vanweë die invloed wat die eksterne omgewing op die graad van arbeidsverwante risiko het. Die verantwoordelikheid van ondernemings om die nodige inligting aan beleggers te openbaar ten einde hulle in staat te stel om die heersende graad van arbeidsverwante risiko by die ondernemings te bepaal, stem ooreen met die verantwoordelikheid van beleggingspraktisyns om die inligting te versoek en rasioneel te beoordeel.

Die voortvloeiende gevolgtrekkings en aanbevelings van die studie en die hulpmiddel wat ontwikkel is om die graad van arbeidsverwante risiko by ondernemings te meet vir die doeleindes van beleggingsbesluitneming, is grotendeels gebaseer op die persepsies van beleggingspraktisyns wat ten tye van die opname in die langtermynversekeringsbedryf bedrywig was. Met dit in gedagte, word aanbeveel dat toekomstige navorsingsaktiwiteite gerig word op die verhoging van die waarde van die klassifikasiebome wat in hierdie studie ontwikkel is deur die boom-groei metodiek toe te pas op werklike gevalle waar die veranderlikes gemeet en die finale uitkomste bepaal kan word.

DEDICATION

This dissertation is dedicated to
Wilma, Erik and Jurie
and my parents

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

South Africa has been subject to major political, social and economic changes since the 1980s. Although these macro variables are interdependent, a healthy economic environment is generally regarded as a precondition for a country to achieve its political and social goals. The success of efforts to revive the domestic economy to achieve its true potential hinges on the availability of appropriate capital, as well as the efficient allocation thereof. The availability and efficient allocation of capital are to a large extent influenced by the efforts of capital providers to ensure that they receive a market-related return on their investment. Market-related returns are assessed in global terms and are the result of the expectations of investors regarding future profits, as well as the variability thereof.

It is generally accepted that investors are likely to choose the investment that offers the highest return with the lowest risk, therefore investors are said to be risk-averse (Sharpe & Alexander, 1990:141). This approach can be regarded as rational, given the assumption that investors attempt to maximise wealth. The wealth-maximisation principle requires efficient investment decision-making by investors, which assumes that risk is kept proportional to return. This does not imply that investors are prone to making the same or uniform investment decisions, because ultimately decision-making is based on attitudes about investment opportunities with varying return-to-risk characteristics.

Given the importance of efficient investment decision-making for the general wellbeing of countries and their inhabitants, a further discussion of this aspect of economic life is warranted. In particular, this study will focus on investment decision-making as it applies to South Africa. Due to the extensiveness of this subject, the study will be limited to *financial* investment decision-making. The latter involves financial assets that represent claims on both real and intangible assets, whereas business investment decision-making relates to real assets that bring about the production of goods and services for the purpose of maximising the present value of the owner's equity (Amling, 1984:4). To narrow the study down further,

emphasis is placed on *institutional* investors, long-term insurers in particular, while individual investors are ignored for practical purposes. This approach is regarded as prudent, because long-term insurance assets play a significant role in the official South African market for financial assets, namely the JSE Securities Exchange South Africa (previously known as Johannesburg Stock Exchange).

In an effort to add to the existing literature regarding the theory and practice of investment decision-making on the JSE Securities Exchange South Africa, this study specifically deals with the impact of *labour-related risks* on financial investment decision-making regarding long-term insurance assets. Labour is of particular importance to the South African economy, as it represents the single most important component of the country's gross domestic product. According to Reserve Bank statistics, 50,1 per cent (R398 581 million) of South Africa's 1999 gross domestic product of R 795 575 million can be attributed to labour (S A Reserve Bank, 2000: Statistical table, page S-106). Notwithstanding the obvious importance of institutional financial investments and labour-related risks to the South African economy, relatively little attention has been paid by researchers to the interdependence of these two issues. As a result of the gap in the existing literature, there is a potential for inefficient financial investment decision-making by institutional investors with a resultant non-optimal allocation of valuable capital on the JSE Securities Exchange South Africa. This applies to both the primary capital market (where capital is raised) as well as to the secondary capital market (where existing securities are exchanged).

This study is therefore restricted to the empirical evaluation of the way in which labour-related risks impact on financial investment decision-making regarding long-term insurance assets, given the basic theory available in this regard. This decision can be motivated as follows (refer to Chapter 4 for more detailed information in this regard):

- A larger degree of homogeneity is achieved than would have been the case if the empirical study focused on institutional assets in general, which, in addition to long-term insurance assets, include retirement assets, the assets of friendly societies as envisaged in the Friendly Societies Act of 1956 (as amended), unit trust and short-term insurance assets.
- Long-term insurance assets represent a significant portion of institutional assets which is the largest source of capital on the JSE Securities Exchange South Africa (refer to

Blommestein & Funke, 1998:37-42 for comments regarding the growing importance of institutional investors in global financial markets).

- The relatively small number of registered long-term insurers and investment practitioners responsible for financial investment decision-making of long-term insurance assets, made it possible to conduct personal interviews.
- The institutional investors included in the sample are well experienced in South African investment conditions and their opinion therefore represents a major portion of knowledge acquired over a number of years.

2. OBJECTIVE AND SCOPE OF THE STUDY

The study embraces the following objective and resulting tasks:

Objective

The objective of this research includes the empirical evaluation of the impact of labour-related risks on financial investment decision-making regarding long-term insurance assets, given the basic theory available in this regard, so that the resultant recommendations can lead to better utilisation of the said theory by investors in general.

Tasks

The resulting tasks are as follows:

- To do a literature study regarding the basic theory available about the impact of labour-related risks on financial investment decision-making by institutional investors.
- To obtain information about relevant aspects by means of personal interviews with investment practitioners responsible for financial investment decision-making as far as long-term insurance assets are concerned.
- To develop a tool that can be used to measure the degree of labour-related risk at enterprises, for the purpose of financial investment decision-making. The development of such a tool provides institutional investors with a holistic decision-making model that envisages more efficient financial investment decision-making.

- To make suitable recommendations based on the critical analysis of the information obtained.

The study is divided into six chapters. The theoretical and empirical results are presented separately.

Chapter 2 deals with aspects to be considered in order to do a *preliminary classification* of the *importance* of labour-related risks for the purpose of financial investment decision-making. Attention is paid to labour intensity and labour stability, which provide an indication of the importance of labour-related risks for the operations of an enterprise. Thereafter key aspects are considered to determine the *relevance* of labour-related risks for institutional investors. These aspects include the anticipated payback period, the marketability of the investment, as well as the expected incremental effect of the investment opportunity on the labour-related risks inherent in the existing investment portfolio. The joint consideration of the importance of labour-related risks for the operations of the enterprise, as well as its relevance for institutional investors, enable prospective investors to formulate a preliminary opinion on the importance of labour-related risks for the purpose of financial investment decision-making.

Chapter 3 presents and discusses a theoretical framework which institutional investors should consider when conducting a *detailed study* of labour-related risks for the purpose of financial investment decision-making. The initial phase of the detailed study involves an investigation of the *external environment* as it affects labour relations at the enterprise. The aspects to be considered in this regard include the political, economic, social and technological environment relevant to the particular enterprise. Once the impact of the external environment on labour relations has been investigated, *company-specific factors* relevant to labour-related risks are analysed as the last phase of the detailed study. In this regard, emphasis is placed on the track record of labour relations as well as the legal framework in which labour relations are practised and the existence or not of behavioural agreements between the company and its labour force. The existence of sound labour relations practices at the enterprise thereafter receives the necessary attention. Sound labour relations practices are reflected by the way in which recruitment and interviewing are conducted at the enterprise, the participation of the employees in decision-making, the sharing of information

between the employer and the employees, the financial empowerment of the employees, the development of human resources, as well as the existence of reasonable working conditions and employment equity. Once institutional investors are able to judge the soundness of labour relations at the enterprise, the contingent liabilities for the enterprise in respect of the labour force should receive the necessary attention. Thereafter it is important to determine whether adequate labour resources are available to meet the future labour requirements of the enterprise. This is followed by an assessment of the enterprise's view of the labour force, whereafter the analysis of company-specific factors relevant to labour-related risks is concluded with an investigation of the labour force's view of the enterprise.

The *results of the empirical study* of the impact of labour-related risks on financial investment decision-making regarding long-term insurance assets are presented in *Chapter 4*. The difference between manual and knowledge worker enterprises is of prime importance for this study as the empirical results are presented in this way. The difference between these two types of workers lies in the fact that the *knowledge worker* applies *ideas, concepts and information* to productive work, whereas the *manual worker* applies *manual skills* to productive work (Drucker, 1982:247). In addition to general information about the impact of labour-related risks on financial investment decision-making regarding long-term insurance assets, attention is paid to the decision-making process applicable in this regard. The practice amongst investment practitioners of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making of long-term insurance assets by the intuitive evaluation of certain key labour-related risks are reported thereafter. This is followed by information relating to aspects which are considered when a detailed study of labour-related risks is done. The ranking of the labour-related aspects by the respondents in order of their significance when they determine the degree of labour-related risk at enterprises, subsequently receives the necessary attention. Lastly, the relative importance of labour-related risks for the purpose of financial investment decision-making is investigated. The value of the study is enhanced by the disclosure of significant correlation amongst the aspects covered in the empirical study.

The development of a *tool to measure labour-related risks* at enterprises for the purpose of financial investment decision-making is the main focus of *Chapter 5*. The tool that is proposed is a natural extension of the findings highlighted in the preceding chapters. In the

initial section of the chapter, classification trees are introduced as the preferred method of measuring labour-related risks at enterprises for the purpose of financial investment decision-making. Thereafter, separate classification trees are constructed, based on the results of the empirical study, to measure labour-related risks in manual and knowledge worker enterprises. The chapter is closed with a theoretical assessment of the empirically based classification trees.

The most important *findings, conclusions and applicable recommendations* derived from the literature and empirical study are summarised and discussed in *Chapter 6.*

CHAPTER 2

PRELIMINARY CLASSIFICATION OF THE IMPORTANCE AND RELEVANCE OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

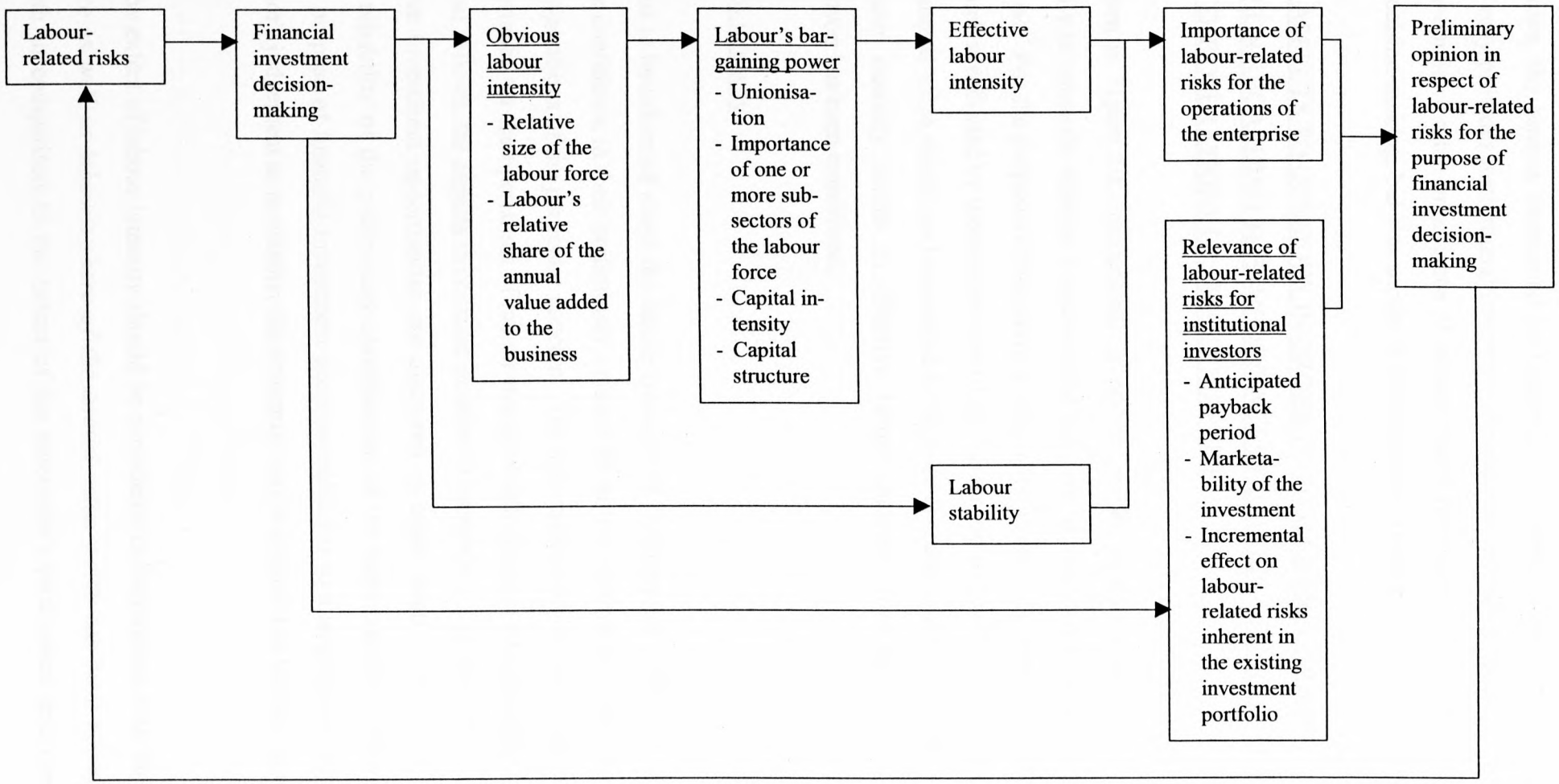
1. INTRODUCTION

The opportunity cost of time necessitates a pragmatic approach when the risk of labour is assessed. Therefore a preliminary classification of the importance and relevance of labour-related risks for the purpose of financial investment decision-making is the most appropriate point of departure. This will prevent the waste of skilled labour doing a detailed study in this regard, when a preliminary evaluation of certain key factors would have indicated that this is not required. With this in mind, attention is paid to the aspects that should be considered in order to do a preliminary classification of the importance and relevance of labour-related risks for the purpose of financial investment decision-making.

As a first step, labour intensity and labour stability are investigated, because the study provides an indication of the *importance* of labour-related risks for the *operations of an enterprise.* Once institutional investors are informed about the importance of labour-related risks for the operations of the enterprise, key aspects are considered to determine the *relevance* of labour-related risks for institutional investors. These aspects include the anticipated payback period, the marketability of the investment as well as the expected incremental effect of the investment opportunity on the labour-related risks inherent in the existing investment portfolio. The joint consideration of the importance of labour-related risks for the operations of the enterprise as well as their relevance for institutional investors, enable prospective investors to formulate a preliminary opinion on labour-related risks for the purpose of financial investment decision-making.

The aspects mentioned in the preceding paragraph which institutional investors should consider to formulate a preliminary opinion on labour-related risks for the purpose of financial investment decision-making are depicted in Figure 2/1.

FIGURE 2/1: DECISION-MAKING MODEL TO FORMULATE A PRELIMINARY OPINION IN RESPECT OF THE IMPORTANCE AND RELEVANCE OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING



In what follows, the aspects mentioned in Figure 2/1 are dealt with in more detail. It therefore not only provides institutional investors with a decision-making model to formulate a preliminary opinion on the importance of labour-related risks for the purpose of financial investment decision-making, but also serves as a guideline for the remainder of this chapter.

2. KEY ASPECTS TO CONSIDER IN ORDER TO FORM A PRELIMINARY OPINION REGARDING THE *IMPORTANCE* OF LABOUR-RELATED RISKS FOR THE OPERATIONS OF THE ENTERPRISE

As can be seen in Figure 2/1, institutional investors need to consider labour intensity and labour stability to conclude whether labour-related risks are of importance for the operations of an enterprise. For the purpose of this study, a distinction is made between obvious labour intensity (which is reflected by the relative size of the labour force as well as labour's relative share of the annual value which has been added to the business) and effective labour intensity. Obvious labour intensity results in effective labour intensity after the labour force's bargaining power has been considered.

2.1 Labour intensity

Investors need to be informed about the labour intensity of an enterprise under consideration so as to have confidence in their preliminary opinion about the importance of labour-related risks for the operations of the particular concern. The assumption can be made that labour is of high importance for the operations of labour-intensive enterprises, while the opposite also holds. In what follows, the aspects to consider in order to be able to judge the labour intensity of prospective investment opportunities are discussed in more detail. This is important, because the reliability of the preliminary classification of the importance of labour-related risks for the purpose of financial investment decision-making is to a large extent dependent on the investor's judgement as to whether the enterprise can be regarded as labour intensive or not.

In general, the extent of labour intensity should be considered in conjunction with the *size of the workforce* as well as *labour's share of the annual value* which has been added to the business, both in comparison to the extent of the enterprise's total assets and operations

(Ryan, 1995:22-25). This can be regarded as *obvious* labour intensity. The fact that an enterprise is characterised by a high number of employees compared to the total assets and extent of operations of the enterprise, does not necessarily provide investors with a reliable reflection of labour's bargaining power (Wilson & Cable, 1991:222), and it is therefore imperative that investors also consider selected factors in order to qualify obvious labour intensity. The joint consideration of obvious labour intensity and those selected factors which take labour's bargaining power into consideration, result in *effective* labour intensity. In what follows, the factors that might have an impact on obvious labour intensity will be dealt with in more detail.

Unionisation is the first factor that has to be considered in order to judge an enterprise's effective labour intensity. This is illustrated in a study by Freeman and Medoff (1984:51) which indicated that union wage differentials tend to increase with the extent of unionisation in a sector (where differentials refer to the percentage difference in the average wage of unionised employees compared to the average wage of employees who are not trade union members). The results of this study also provide an indication of the organisational capabilities of unions and the potential advantages for the labour force to speak with a collective voice when bargaining with employers. In this sense, the presence of a union will be of great importance in geographically diversified labour-intensive enterprises, because without a strong union the labour force might lack the organisational capabilities to be a force to be reckoned with over the short-term. A more recent study by Branchflower and Freeman (1992:65), reported union wage effects which varied from modest differentials for countries such as Austria, the former West Germany and Switzerland, to a 10 per cent differential in the United Kingdom and a very high 22 per cent in the United States of America. These results (which in cases might be due to unique wage-setting procedures where non-unionised workers receive the same wage increases as unionised workers) become more convincing as an indicator of bargaining power when the effect which unions have on fringe benefits is considered. Virtually all studies in the United States of America show that when there are unions, fringe benefits increase, particularly pension benefits, while studies of other countries yield a similar finding (Branchflower & Freeman, 1992:67). The conclusion can therefore be made that labour's bargaining power will be higher in the case of enterprises which are characterised by a high union density (where union density refers to the percentage of total employees who are union members) than is the case for enterprises with a low union density

(Cavanaugh, 1998:48). A high union density will therefore tend to have a positive leverage effect on *obvious* labour intensity, while the opposite also applies. This is illustrated by the results of another study in the United States of America (completed during 1993) which concluded that the significant negative effect of union organising activity on the market value of enterprises (without a significant relationship between unionisation and enterprise growth) indicates that equity losses from union organising activity may represent a transfer of wealth from shareholders to workers (Bronars & Deere, 1993:203).

Although the information in the preceding paragraph provide investors with ample proof of the importance of union density when labour intensity is considered, it lacks evidence of the global trends in union density. Consideration and interpretation of these trends may elevate the previous static observation of unionisation into a more future orientated approach. This is of great importance, because financial investment decision-making is inherently future orientated.

Union density in the United States of America has recently been falling to levels of the 1920s and 1930s. With this in mind, it is reported that organised labour just does not have the clout it once had and the question is asked whether unions still have a future (Hequet, 1996b:29). From this scenario, one might expect unions to be in rapid retreat in most other advanced Organisation for Economic Co-operation and Development (OECD) countries as well, but this expectation is erroneous. The available data on union density in developed countries, while far from perfect, show a divergent pattern of change across countries (Branchflower & Freeman, 1992:58). Given the inconclusive trend in the leading economies of the world, it is prudent to at least use the prevailing level of unionisation in a particular country when obvious labour intensity is evaluated.

Another aspect that has to be investigated, is whether there are *one or more subsectors in the labour force* which are of critical importance to the operations of an enterprise. An example in this regard would be people with specialised training or experience without whose efforts the operations of the enterprise would be seriously jeopardised (Drucker, 1999:87-88; Nyatsambo, 1999:7-9). The importance of skilled workers to enterprises is usually reflected in the wage premium that they attract compared to the wages paid to unskilled workers (Wilson & Cable, 1991:222). Should any such subsector of great value be identified in the

labour force of an enterprise, *effective* labour intensity will be increased, unless reasonable certainty exists that the particular subsector's expertise can be obtained in the labour market without meaningful disruption to the operations of the enterprise.

Capital intensity is another factor that has to be taken into consideration when the labour intensity of an enterprise is evaluated (Cavanaugh, 1998:48). This is of importance for the reliability of the preliminary opinion regarding the importance of labour-related risks for the operations of the enterprise, because capital intensity has the potential to increase the importance of human skills (Webster, 1999:30). This is illustrated where enterprises are considered which are for example involved in the production of chemicals or aluminium. The fact that these capital-intensive enterprises in all probability do not employ a large number of people (relative to the size of the enterprises as measured by its sales or total assets), does not necessarily imply that their employees are in a weak bargaining position. Their bargaining power is not determined merely by numbers, but more by specialised skills. This is even more so in the case of capital-intensive enterprises given the higher operating leverage risk where continued high level of commitment and performance of employees are required to avoid losses. The leverage represented by significant investments in assets can thus also increase the potential adverse impact of poor employee performance (Koch & McGrath, 1996:341).

The last factor that should be considered in order to arrive at *effective* labour intensity, is the *capital structure* of the particular enterprise. The inter-relationship between the capital structure of an enterprise and its labour force, is a result of the claims both have on the income of the concern. The labour force's bargaining power will then depend on the present value of cash flow that is available for distribution between the remaining stakeholders once the providers of debt have been remunerated by means of interest payments. This implies that by increasing the financial leverage of an enterprise through the use of additional interest-bearing debt, the bargaining power of an enterprise's employees will reduce irrespective of the extent to which they might be organised in a union. In contrast, a concern with a conservative capital structure (in other words one that has a high percentage of equity) might be more prone to demands from the labour force for wage increases than would have been the case if it made more aggressive use of debt. Empirically strong evidence was found of a positive relationship between unionisation and debt-equity ratios (Bronars & Deere, 1991:231-254).

This empirical evidence gives a strong indication that firms do respond to the threat of unionisation by increasing their debt-equity ratios. The aspects mentioned above suggest that investors who ignore the capital structure of the enterprise under consideration, run the risk of estimating the importance of labour-related risks for the purpose of financial investment decision-making in an erroneous way.

2.2 Labour stability

Labour stability is an indication of harmonious industrial relations, whereas harmonious industrial relations simply means an ability to strike a mutually acceptable balance between the employer's legitimate right to make a profit and the employee's equally legitimate right to demand a living wage and other benefits relevant to his/her employment (Dhlomo, 1994:4). The disturbance or distortion of this balance results in industrial upheaval and thus labour instability. Labour instability may have a profound effect on the profitability of enterprises and must therefore be considered in order to form a preliminary opinion regarding the importance of labour-related risks for the operations of an enterprise. At this stage, the causes and nature of labour instability do not need particular attention, because these aspects require a separate detailed investigation in order to help explain the existing climate of labour relations at the particular enterprise. The extent of the employees' dissatisfaction with the employment relationship and the way it is expressed, is however, of importance at the preliminary stage of labour risk assessment.

The employees' dissatisfaction with the employment relationship may be expressed by means of one or more of a number of industrial actions. This implies that *strikes* are not the only expression of conflict, but also included is the total range of behaviour and attitudes that express opposition and divergent orientations between individual owners and managers on the one hand and working people and their organisation on the other (Kornhauser, Dublin & Ross, 1954:13). In what follows, the various possible industrial actions that collectively reflect labour instability are discussed.

A strike may be defined as a temporary, collective withholding of labour, its objective being to stop production and thereby to oblige the employer to take cognisance of the demands of employees (Bendix, 1996:521). It can therefore be deduced that employees who are engaged

in strike action do not intend to permanently withhold their labour from the employer, but merely to oblige him into negotiation or, where negotiations are already under way or deadlock has been reached, to persuade him to adopt a different stance regarding the demands of his employees. The various types of strikes which can be distinguished are directly related to the general purposes of strike action and are briefly discussed below (Nel & Van Rooyen, 1996:203):

- *Economic strike.* An economic strike is one where the demands in respect of wages, fringe benefits or any other factor have an economic bias.
- *Grievance strike.* A grievance strike occurs when the trade union does not agree with the way in which management handles day-to-day problems, such as discipline.
- *Wildcat strike.* This sudden strike takes place without any warning. The strikers' aim here is to take the employer completely by surprise. In this case no negotiations take place and the result can be absolute chaos.
- *Sympathy strike.* In this case, workers strike in support of trade union members who are striking in another enterprise. Stopping work is therefore not aimed at their own employer.
- *Sit-down strike and go-slow strike.* In the case of a sit-down strike, the workers do not leave the premises, but stay there in an attempt to prevent others from doing their work. More or less the same situation occurs in a go-slow strike where the rate of working is only slowed down.
- *General and political strikes.* A general strike is the worst form and frequently results from a sympathy strike. The 1922 Rand rebellion is a good example of this. Such a strike generally starts as an ordinary strike that gradually gains momentum until practically all economic activities in a country grind to a halt. In extreme cases, this type of strike can lead to a revolution aimed at overthrowing the government. However, this type is not to be confused with the political strike. The latter is aimed directly at political policy and the government in power at the time.

Strikes as discussed above represent collective action by workers. In addition, there are alternatives available to employees which need not be on an organised basis or as visible as strikes. These alternatives will appeal to discontented employees who wish to express their dissatisfaction with the status quo, but are of the opinion that they stand to lose more from a strike than they might gain from such drastic action. The choice between collective and

individual industrial action will be influenced by the risk profile of employees as individuals and/or as a group. These alternative expressions of undesirable industrial conflict are just as important as strikes for the purpose of financial investment decision-making, given the potential detrimental effect thereof on profitability. With this in mind, these alternative manifestations of discontent amongst employees require further attention.

In addition to labour-related risk indicators such as an above average rate of *absenteeism* or *staff turnover*, employees might also show their dissatisfaction by doing no more than what they are strictly required or ordered to do. Professional and skilled employees, in particular, can greatly affect the productivity or services of an organisation by instituting an action of this kind (Bendix, 1996:532). Other alternatives are where employee(s) *refuse overtime work* or where they even go so far as to *sabotage* the operations of the enterprise. These actions are generally intended to escalate management problems and are also referred to as "*inside games*" (Northrup, 1994:513). Alternatively, employees might decide to individually or collectively institute actions that are external to the work environment in an effort to convince management to meet their demands. These might include *product and service boycotts* where an attempt is made to stop consumers from buying a product marketed by a particular enterprise or from using a service provided by the employer. Product and service boycotts are normally instituted only after other industrial action has failed (Bendix, 1996:532). Another variety is where employees attempt to extend their influence by *eliciting the sympathy of other* employees and employers, suppliers, consumers, the public at large, community leaders and national or international organisations. Where the external pressures are numerous and varied or where the person or organisation exerting the pressure is of importance to the employer, this form of action may prove quite effective (Bendix, 1996:532). Northrup (1994:513) collectively refers to these actions, which are external to the workplace, as *corporate campaigns*.

In addition to industrial action, the extent to which use is made of the *dispute settlement mechanisms* provided for in the Labour Relations Act of 1995 (as amended) (hereinafter referred to as the "Labour Relations Act") also provides an indication of labour stability. These methods of dispute settlement include conciliation, mediation and arbitration and with this in mind a Commission for Conciliation, Mediation and Arbitration was established as a juristic person (Labour Relations Act, section 112). Conciliation entails the establishment of

a forum in which parties who are in conflict or have failed to reach agreement can come together once again and attempt to settle their differences (Bendix, 1996:484). In the case of mediation a third party, or third parties, are appointed to intervene for the purpose of inducing settlement (Bendix, 1996:485). The mediator actively assists the conflicting parties to reach a mutually acceptable agreement, but has no decision-making powers and can therefore not force them to accept any of his ideas (Nel & Van Rooyen, 1996:216). In arbitration, the appointed third party actively intervenes in the dispute and takes over the role of decision-maker. In contrast to conciliation and mediation, arbitration does not promote the continuation of collective bargaining, because whatever settlement the arbitrator imposes, it will become binding on the parties concerned (Bendix, 1996:488).

The number of cases referred to the Labour Court can be regarded as the final indicator of labour stability. The Labour Court is a court of law and has, in relation to matters under its jurisdiction, the same powers and standing as a court of a provincial division of the Supreme Court (Labour Relations Act, sections 151(1) and 151(2)). The number of cases referred to the Labour Court will provide institutional investors with an indication of the extent of complex disputes which need to be settled, while conciliation, mediation and arbitration will generally refer to less complex labour disputes.

3. KEY ASPECTS TO CONSIDER IN ORDER TO DETERMINE THE *RELEVANCE* OF LABOUR-RELATED RISKS FOR INSTITUTIONAL INVESTORS

Once institutional investors have assessed the importance of labour-related risks for the operations of the enterprise they should also consider the relevance of these risks for institutional investors. On the one hand these are two separate issues, on the other hand they co-exist, because the operations of an enterprise impact on the aspects which determine whether labour-related risks are relevant for institutional investors. The relevance of labour-related risks for institutional investors is influenced by the anticipated payback period of the investment, the marketability of the investment as well as by the incremental effect which the investment has on labour-related risks inherent in the existing investment portfolio (refer to Figure 2/1).

3.1 Anticipated payback period

The anticipated payback period is of importance for financial investment decision-making, because the anticipated holding period required to recover the initial investment, directly impacts on the amount of risk involved. Risk increases as the anticipated payback period shifts further into the future, given the higher level of uncertainty regarding possible future events. The anticipated payback period is therefore of particular importance when labour-related risks are assessed by institutional investors, because the immediate future can be predicted with a higher level of certainty than is the case with long-term predictions.

Notwithstanding the intuitive attractiveness of the payback period in the field of financial investment decision-making, doubt might exist as to whether such a crude technique can exist alongside more sophisticated techniques which are used to evaluate prospective investment opportunities. In this regard, experience of the role of the payback period in the related field of capital budgeting is of particular interest. Empirical surveys have indicated that the payback period is seldom used as a primary investment evaluation technique, but frequently as a secondary technique (Kee & Bublitz, 1988:149). In addition, it was found that the application of sophisticated capital budgeting techniques declined as uncertainty increased and that in practice the payback period is used as a filter to evaluate a proposed asset's risk (Kee & Bublitz, 1988:150). These empirical results add to the rationale of using the payback period to determine the relevance of labour-related risks for institutional investors during the *preliminary* evaluation of financial investment opportunities.

Given the rationale of the anticipated payback period for institutional investors, attention should be given to calculation of the payback period. The payback period is not necessarily equal to the number of years which is arrived at when the ruling market price is divided by the share's current earnings, because it ignores the potential for a growth in earnings. Due to the fact that earnings do not necessarily equal cash, dividends are often chosen as the preferred variable for this calculation. Earnings are then accounted for through the effect of retained earnings on the future growth rate of dividends.

In conclusion, calculation of the anticipated payback period therefore needs to be based on conservative assumptions about dividends and the expected future growth rates in order to

indicate the level of associated risks to institutional investors. If labour-related risks are high, institutional investors will demand short payback periods before they will consider the particular investment opportunities.

3.2 Marketability of the investment

Marketability (or liquidity) is a vague concept that can either be defined in a very broad sense or it can be defined narrowly. In a very broad sense, marketability refers to the total funds available to security markets and (presumably) to the economy as a whole (Stumpp & Scott, 1991:35). In a narrow sense, marketability can be defined as the ability to buy or sell an asset quickly with little price change from recent transactions assuming no new information (Reilly, 1989:466). The latter definition is relevant for the purposes of this study, because the focus of this study is on the individual enterprise and not on the market as a whole.

In the case of liquid shares, institutional investors should be able to buy or sell them quickly at a price close to the prior transaction price. The marketability of a share is thus reflected in the level of difficulty in trading it, as measured by the overall cost of a transaction. An important component of this cost is the spread between the bid and ask prices at which dealers are willing to satisfy sellers' or buyers' demands for immediate execution of their transactions. A seller who wants to obtain the full market value of a share will have to wait for the arrival of a buyer willing to buy at that price. He can avoid the associated delay by promptly selling the share to a dealer at the quoted bid price, which may reflect a liquidation discount. The bid-ask spread (the difference between the dealer's bid and ask quotes) can thus be regarded as a measure of liquidity (Amihud & Mendelson, 1988:5).

Given the aspects mentioned above, the conclusion can be made that a lack of marketability increases the relevance of labour-related risks for institutional investors, especially if they take a short-term view of investments. They will therefore only consider an investment in a company with a high level of labour-related risk if they are assured that they can quickly realise the investment. In contrast, institutional investors who take a long-term view of investments might be less averse to labour-related risks than short-term investors when faced with a lack of marketability. In conclusion, it can be said that companies with an above average degree of labour-related risk can improve their rating in a market that is dominated by

short-term investors if they take the necessary steps to improve the marketability of their shares. In this regard, listed companies with illiquid shares should reduce the uneven distribution of information, which means that they should voluntarily release positive inside information in order to increase the marketability of their shares (Diamond & Verrecchia, 1991:1348).

3.3 Incremental effect on labour-related risks inherent in the existing investment portfolio

The volatility of share prices is generally regarded as an important source of information to measure and understand investment risk. Labour unrest increases the uncertainty about future share prices and therefore adds to total risk. The standard deviation is a common measure of volatility and measures the spread of outcomes (share prices in this case) around the expected value (Fischer & Jordan, 1987:128). The standard deviation therefore provides institutional investors with a measurement of total risk for a share that includes a component that is peculiar to the particular share (the non-market risk) and not characteristic of the market as a whole. This measurement of risk therefore includes a component of labour-related risk which is generally found in the market, as well as a component which is characteristic to a particular company only. It can be deduced that in the case of a single share portfolio, both the general component of labour-related risks as well as the non-market component thereof will have relevance to institutional investors. Yet, in practice, institutional investors never invest in one share only, with American institutional investors typically holding only one or two per cent of a company's shares (Reynolds, 1992:32). This implies that, although the volatility of individual share prices cannot be ignored, the major source of risk for institutional investors is uncertainty about the future market value of the portfolio (Sharpe, 1995:84). Labour-related risks should therefore be evaluated in the context of a multiple share portfolio.

The total risk of a multiple share portfolio is not equal to the simple weighted average of the individual standard deviations, because the timing of adverse conditions for each of these shares may differ. This brings forward the concept of correlation which can vary between +1,00 (which means perfect positive correlation) and –1,00 (which indicates perfect negative correlation). A figure of zero would then mean that the shares are not correlated to each other. Although diversification cannot easily reduce the total risk of the portfolio to less than that of the market, it helps reduce the non-market related risk of the individual shares. This

implies that a share which in isolation might appear unattractive as a result of its high labour-related risks, has investment merit as a result of the low correlation of its labour situation with that of the rest of the shares in the portfolio. It is therefore not the risk of the share in isolation that is most important, but rather its impact in the context of the total portfolio mix (Gustafson & Lummer, 1996:28).

It is also important not to ignore the gains from international diversification and the possible implications thereof for financial investments in above average labour-related risk enterprises. In this regard it is important to consider the extent to which international capital markets are integrated. If the capital markets of the world are fully integrated, then assets with the same risk have identical expected returns irrespective of the market (Bekaert & Harvey, 1995:403). In addition, the factors explaining the correlation of returns under such circumstances will be international ones, with no role for national factors (Beckers, Connor & Curds, 1996:31). Capital market integration also implies that there are no barriers to international investing (Beckers et al., 1996:31). The empirical evidence suggests that although there is a perception that world markets have become more integrated, the extent of integration varies for a sample which included 12 emerging equity markets (Bekaert & Harvey, 1995:403). A more recent study of the diversification potential in 13 emerging capital markets that were classified in three geographical regions (namely Latin America, the Pacific Basin and the Mediterranean) suggested apparent independence of markets within these three emerging regions, which suggests that diversification across the countries should be quite effective (DeFusco, Geppert & Tsetsekos, 1996:358). Further evidence suggests that although there is a trend towards increasing integration within the European Union, the trend in this regard for the world-wide sample is statistically insignificant (Beckers et al., 1996:37). It can therefore be deduced that institutional investors who are not allowed to invest on a global scale will tend to avoid investment opportunities with high labour-related risks in their own country, because they are prevented from utilising international investment opportunities to reduce the risk of the investment portfolio.

The percentage shareholding in a company adds another dimension when labour-related risks are assessed from a portfolio point of view. Institutional investors should therefore not only consider the correlation of the labour situation at the particular enterprise with that of the rest of the shares in the portfolio, but also determine to what extent they are able to influence

business decision-making at that particular enterprise. This can best be illustrated by referring to the following example:

	Investment A	Investment B
Percentage of the investment portfolio	10%	10%
Percentage shareholding in companies A and B respectively	100%	5%

In the above example, a similar rand amount is available for investment in either company A or company B. Both investments will therefore constitute a similar percentage of the total portfolio (10 per cent in this case) irrespective of which one is chosen. The assumption can also be made that the labour situations at both companies are similar to each other. Price therefore represents the main difference between these two investment alternatives. In the case of company A, 100 per cent shareholding can be obtained for a rand amount which is enough to only buy five per cent of the shareholding of company B. Based on these factors alone, investment alternative A will be preferred, because the institutional investor investing in this company will be able to exercise indirect control over the enterprise and therefore also over its labour-related risks.

The aspects mentioned above point to opportunities for institutional investors to improve the risk-adjusted return of their investment portfolios by including shares with labour-related risks that are not perfectly correlated with that of the rest of the portfolio. The opportunities in this regard are enhanced to the extent that international capital markets are not fully integrated. In addition to this, institutional investors should also consider to what extent they will be able to exercise indirect control over the enterprise and therefore also over the labour-related risks.

4. FORMULATION OF A PRELIMINARY OPINION IN RESPECT OF THE IMPORTANCE AND RELEVANCE OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

The importance of labour-related risks for the purpose of financial investment decision-making depends on the importance thereof for the operations of an enterprise and/or its

relevance for institutional investors. The potential of labour-related risks for the purpose of financial investment decision-making will be high if labour is important for the operations of the enterprise and/or it is relevant for institutional investors. *Should either or both of these components prove to be important or relatively large depending on circumstances, then the potential risk of labour for the purpose of financial investment decision-making can be regarded as high.* If this is the case, the investment opportunity should be temporarily avoided until a detailed analysis (as described in Chapter 3) has been done.

In order to assist institutional investors to formulate a preliminary opinion on the importance and relevance of labour-related risks for the purpose of financial investment decision-making, the decision-making model depicted in Figure 2/1 can be used.

5. SUMMARY

The study of the aspects that have to be considered to do a preliminary classification of the importance and relevance of labour-related risks for the purpose of financial investment decision-making has led to the conclusion that labour-related risks will be important in this regard if it is important for the operations of the enterprise *and/or* relevant to institutional investors. This emphasises not only important alternatives which exist for labour-intensive enterprises to become attractive for the purpose of financial investment decision-making, but also the responsibility of institutional investors to consider all relevant labour-related facts before coming to a conclusion.

Labour intensity has been identified as a first factor to consider in formulating a preliminary opinion regarding the *importance* of labour-related risks for the operations of the enterprise. With regard to labour intensity, a distinction is made between obvious labour intensity and effective labour intensity. The size of the workforce and labour's share of the annual value added to the business, both in comparison to the extent of the enterprise's total assets and operations, provide a reliable indication of the former. The labour force's bargaining power also has to be considered before an opinion can be expressed about the effective labour intensity. *Unionisation* is the first factor that should be considered to arrive at effective labour intensity. In this regard, the geographical diversification of the labour force, and the current union density and trend thereof, play an important role. Another factor that has to be

considered is whether *one or more subsectors in the labour force* are of critical importance to the operations of the enterprise. *Capital intensity* is a third factor that has to be taken into account when the labour intensity of an enterprise is evaluated, because capital intensity has the potential to emphasise the importance of labour as a production factor. The *capital structure of the enterprise* is the last factor that may have an effect on obvious labour intensity. In this regard, it was argued that the employees of enterprises that have a relative low equity ratio will be less inclined to demand high wage increases than would be the case in enterprises without interest-bearing debt.

Labour stability is the second factor that has to be considered to form a preliminary opinion regarding the importance of labour-related risks for the operations of the enterprise. *Strikes*, as a way of industrial action, have been identified as an important indicator of labour instability. In addition to strikes, various other indicators of labour instability exist within enterprises as well as external to enterprises. The most important internal indicators of labour instability include *absenteeism, staff turnover, work to the rule, a refusal to do overtime and sabotage of operations.* External indicators of labour instability include *product and service boycotts* as well as the *eliciting of sympathy from others*. The use of *dispute settlement mechanisms* represents the last group of labour instability indicators. This includes conciliation, mediation, arbitration and cases that have been referred to the Labour Court.

Once the importance of labour-related risks for the operations of the enterprise have been determined, institutional investors should assess the *relevance* of labour-related risks for the purpose of financial investment decision-making. The anticipated *payback period* is an aspect that needs to be considered to determine the relevance of labour-related risks for institutional investors. It has been argued that the relevance of labour-related risks increases for institutional investors with an increase in the anticipated payback period. The *marketability* of an investment is a second factor that has an impact on the relevance of labour-related risks for institutional investors. The *incremental effect on labour-related risks inherent in the existing investment portfolio* is the final aspect to take into account when the relevance of labour-related risks for institutional investors is evaluated. The main conclusion in this regard is that it is not the risk of the share in isolation that is of importance, but rather its impact on uncertainty about the future market value of the investment portfolio.

CHAPTER 3

DETAILED STUDY OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING BY INSTITUTIONAL INVESTORS

1. INTRODUCTION

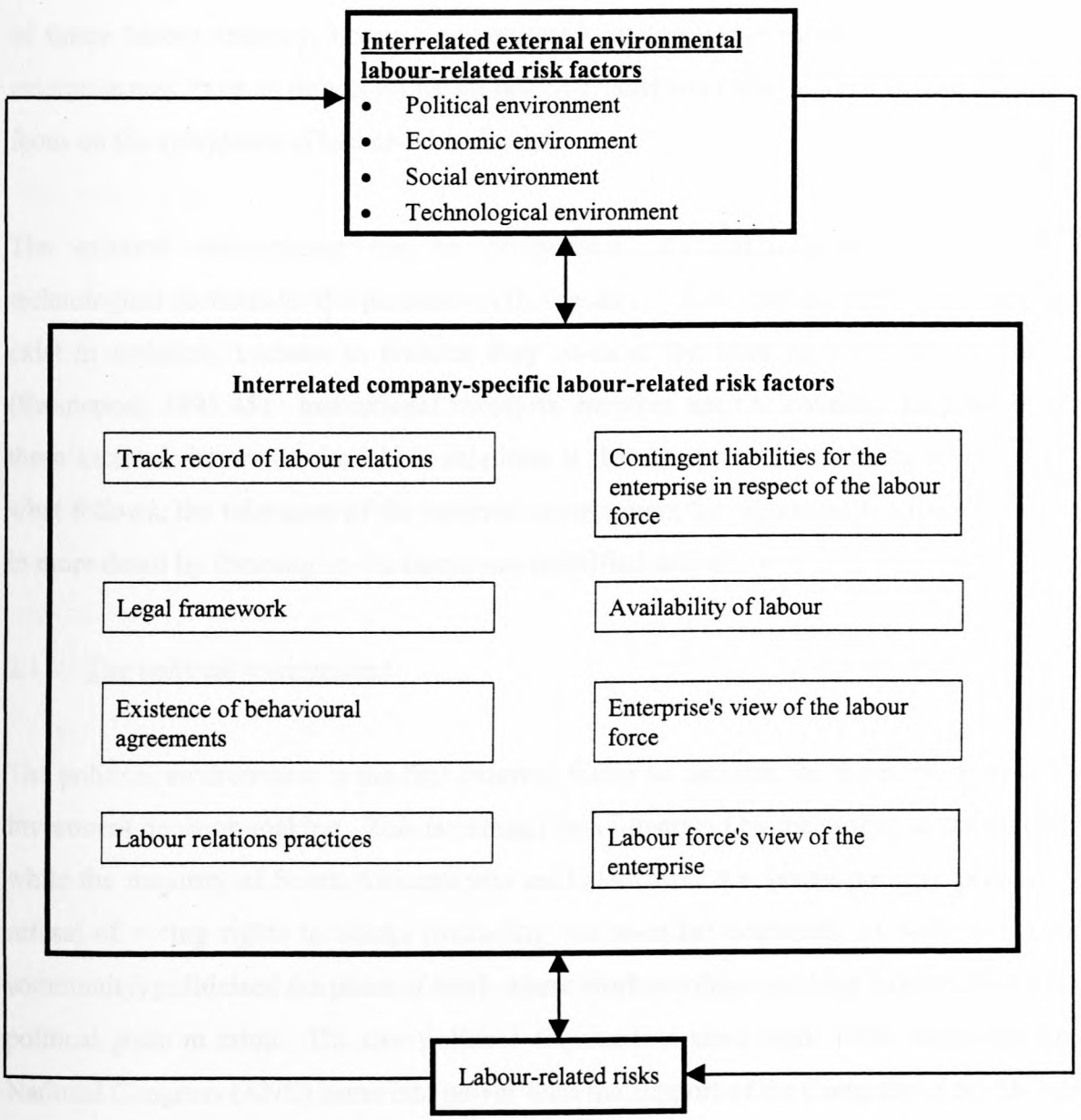
This chapter deals with the aspects to be considered when institutional investors embark on a detailed study of labour-related risks for the purpose of financial investment decision-making. A detailed investigation of these risks is warranted if the investment opportunity shows investment merit and the preliminary study points to the importance and/or relevance of labour-related risks for the purpose of financial investment decision-making.

The detailed study has, as a first phase, the investigation of the external environment as it affects labour relations at the enterprise concerned. The aspects to be considered in this regard include the political, economic, social and technological environment relevant to the particular enterprise. Once the impact of the external environment on labour relations has been investigated, company-specific factors relevant to labour-related risks are analysed as the last phase of the detailed study. In this regard, emphasis is placed on the track record of labour relations which includes labour disputes, employee turnover and absenteeism, the timing of labour unrest and the historic trend of creating value in the business. The focus is thereafter placed on the legal framework in which labour relations are practised and the existence of behavioural agreements between the company and its labour force. The existence of sound labour relations practices at the enterprise thereafter receives the necessary attention. Sound labour relations practices are reflected by the way in which recruitment and interviewing are done at the enterprise, participation of the employees in decision-making, the sharing of information between the employer and the employees, financial empowerment of the employees, development of human resources, as well as the existence of reasonable working conditions and employment equity. Once institutional investors are able to judge the soundness of labour relations at the enterprise, the contingent liabilities for the enterprise in respect of the labour force should receive attention. Thereafter it is important to determine whether adequate labour resources are available to meet the future labour requirements of the

enterprise. This is followed by an assessment of the enterprise's view of the labour force. The analysis of company-specific factors relevant to labour-related risks is concluded with an investigation of the labour force's view of the enterprise.

The aspects mentioned in the preceding paragraph are summarised in Figure 3/1 below.

FIGURE 3/1: SCHEMATIC ILLUSTRATION OF THE LABOUR-RELATED RISK FACTORS IDENTIFIED FOR A DETAILED STUDY



The content of Figure 3/1, which can be used as a guideline for the chapter, is discussed in more detail in the rest of this chapter.

2. EXTERNAL ENVIRONMENTAL FACTORS RELEVANT TO LABOUR-RELATED RISKS

It is imperative that institutional investors take cognisance of the external environment wherein labour relations are practised, because no enterprise operates in isolation. A proper evaluation of the environment external to the enterprise will not only improve the reliability of institutional investors' assessment of labour-related risks, but also lead to a better understanding of the causes of labour-related risks. This is of importance for the prediction of future labour stability, because an expected change in the external environment of the enterprise may have an impact on future labour-related risks which is not explained by a mere focus on the symptoms of labour-related risks.

The external environment can be categorised into political, economic, social and technological sections for the purposes of this research. This does not imply that these factors exist in isolation, because in practice they co-exist and have an influence on each other (Swanepoel, 1991:45). Institutional investors therefore need to consider the joint impact of these external factors on the labour relations at the enterprise that is being investigated. In what follows, the relevance of the external environment for labour-related risks is dealt with in more detail by focusing on the categories identified above.

2.1 The political environment

The political environment is the first external factor to consider for the purpose of financial investment decision-making. This is perhaps best illustrated by the sanctions era that existed while the majority of South Africans was excluded from the formal political process. The refusal of voting rights to blacks (including the so-called coloureds, as well as the Indian community) politicised the place of work where workers often opted for industrial action with political goals in mind. The new political dispensation since April 1994, when the African National Congress (ANC) came into power with the support of the Congress of South African Trade Unions (COSATU), resulted in South Africa being re-accepted into the world community. Although this event made South Africa acceptable as an investment destination for international institutional and other investors, it has not eliminated the political environment as a factor to consider when financial investment decisions are made. In a sense,

the new political dispensation has increased the importance of government's role in the local labour market, because previously there were reasons for international institutional investors to ignore South African investment opportunities given the unjust and inherently unstable political environment. Institutional investors therefore have to investigate whether the political environment can be described as stable or not.

The Concise Oxford Dictionary defines stable as "firmly fixed or established; not easily adjusted, destroyed, or altered." In a political context, the concept of stability refers to the distribution of political power in a country and the impact thereof on the labour market. In essence, stability therefore means predictability and less uncertainty about possible future developments. Once the stability of the political environment has been assessed, the impact that parties with political power have on the labour scene should be taken into account. In this regard, the role of government in the labour field will be of great importance, because government can be regarded as representative of the dominant political ideology in a country. Having said this, cognisance should also be taken of the influence which minority political parties, organised labour, employer organisations and others have on the labour policy of government. In practical terms this means that, although government might, for example, be closely aligned to the interests of labour, it cannot ignore the interests of employers if it wants to create a favourable environment for capital formation. This is particularly relevant in the case where the local economy is integrated with that of the rest of the world, because that decreases the independence of governments' spheres of policy choice as well as the choices themselves (Campbell, 1994:188).

Government has a direct as well as an indirect effect on the labour relations of enterprises. Its direct effect is made felt through legislation aimed at the relationship between employers and employees. Labour legislation governs the conduct of labour relations and affects the distribution of power between employers and employees (Barker, 1999:25). Cases also exist where public policy, which is not directly aimed at the labour relationship, affects that relationship. In this regard, the policy of "apartheid", which once was a feature of the South African political system, greatly influenced and to an extent still influences the relationship between employers and employees. The latter is an example of a government's indirect effect on labour relations. Another example would be social welfare legislation which will have an effect on the need for trade unions to satisfy basic needs felt by workers (Blum, 1994a:13).

In conclusion, it is important to note that institutional investors will not evaluate a government's labour policies in isolation when making financial investment decisions, but will compare them to labour market policies in the rest of the world. In this sense, one nation's approach to labour market policy depends on another's to a greater extent than in the past (Campbell, 1994:189). This also applies to the South African situation where labour market policies are dependent on the best practices found in countries that are regarded as investor friendly.

2.2 The economic environment

The economic environment is an important external factor to consider when labour-related risks are evaluated. It is also important to take into account that the economic environment does not only have an impact on labour-related risks, but that the opposite also occurs. Examples in this regard are the potential implications which trade unions might have for economic outcomes such as wages, employment, productivity and profits (Disney, Gosling & Machin, 1995:404). With that in mind, the relevance of the economic environment for labour relations can be investigated.

The business cycle is the first factor to consider, because the priorities of both employers and employees differ during different phases of the business cycle. During the growth phase of the business cycle one would expect employers to be more willing to consider demands by labour for higher salaries and wages, as well as other benefits, especially if their demands are backed by higher productivity. This can be attributed to the greater affordability of labour at times when the turnover and profit per worker increase. On the contrary, labour will be less likely to succeed with demands to improve their situation during the declining phase of the business cycle. This situation developed when a slowdown in world economic growth and productivity and the increased inflation following the 1970s oil shocks, created adverse labour market situations in virtually all Western countries (Branchflower & Freeman, 1992:57). This led to real wage cuts in the 1980s in order to stimulate employment.

The level of unemployment is another economic factor that needs to be considered when labour-related risks are assessed for the purposes of financial investment decision-making. Unemployment levels are closely linked to the business cycle and tend to increase as the

economy slows down, while a booming economy will have a greater capacity to provide jobs for the unemployed or emerging employees. The level and trend in unemployment is of particular importance for the ability of trade unions to recruit new members, as well as to maintain existing membership levels. Although low and relatively stable levels of unemployment are hypothesised to have little effect on union membership, high and rapidly rising levels of unemployment are likely to have a significant negative impact on union growth (Mason & Bain, 1993:334). The relevance of these trends to institutional investors is that the bargaining power of trade unions can be expected to weaken when they experience a declining membership.

Inflation is another economic phenomenon that is relevant for the relationship between employers and employees. It can be expected that both these parties will at least try to maintain their wealth in real terms during inflationary periods. In general, employers will not offer wage increases beyond the rate of inflation unless it is matched by a sufficient growth in labour productivity. The ability of labour to negotiate real wage increases irrespective of the growth in their productivity will to a large extent depend on their bargaining power.

The impact that the global economic environment has on South African labour-related risks, should also be taken into consideration. Internationalisation is the prominent feature in this regard and is of importance for the South African economy and its labour market. Internationalisation refers to the growth in world trade and investment, and therefore implies the increasing integration of world markets. Contrary to popular belief, the current growth in the volume of world trade is not altogether new, but to a large extent represents a recovery of the level of integration reached in 1913, whereafter most of the world's economies turned inward until the early post-World War II years (Krugman, 1995:330). This does not mean that nothing is new in the growth of world trade that has taken place over the last generation, because the overall volume of trade conceals several important features of modern international trade. The new aspects of modern world trade are the rise of intra-trade (trade in similar goods between similar countries, for example the export of German manufactured BMWs to Japan and the import of Japanese manufactured Hondas by Germany), the ability of producers to slice up the value chain (breaking a production process into many geographically separated steps), the resulting emergence of supertraders (countries with extremely high ratios

of trade to GDP such as Singapore), and the emergence of large exports of manufactured goods from low-wage to high-wage nations (Krugman, 1995:332-337).

These changes in the international economic environment have a meaningful impact on labour (Wood, 1995:57-58). In the first place, it is imperative for the economic wellbeing of enterprises that labour is empowered to respond with speed to these changes in the market and competitive environment (Gandz, 1990:74). In the second place, there is a tendency for enterprises to outsource work to more proficient, lower-cost locations as the skills pool deepens around the world (Heenan, 1995:18). Workers in different countries therefore have to compete for the same jobs, which tends to weaken labour's bargaining power. This strengthens the argument that trade unions, when considering alternative strategies to improve the prosperity of their supporters, will have to take due cognisance of the ability and tendency of employers to make use of labour in foreign countries for some or all of their labour requirements. This points to the existence of a global labour market, but even more important, it highlights the growing disparity between the mobility of labour and capital (Campbell, 1994:187).

2.3 The social environment

In the social sphere there is continual interaction between social relationships and labour relationships (Bendix, 1996:19). This continual interaction has the potential to create tension if any of the parties do not duly consider the beliefs, values, attitudes and opinions of the opposite party in the relationship. It can therefore be deduced that perceptions often play a prominent role in this regard. These perceptions which employees bring to the workplace are established in their subsocieties (Bendix, 1996:19). With this in mind, it is necessary to focus on the impact which cultural aspects, demographic characteristics and skills and education might have on the employment relationship.

Cultural values exist mainly along four dimensions (Douwes Dekker, 1993:15-16). *Power distance,* the first of these dimensions, refers to the extent to which a society's inequality is endorsed by its followers as much as by its leaders. *Individualism versus collectivism* refers to whether everyone in the society is expected to look after himself or herself and the immediate family, or whether people from birth onward are integrated into strong, cohesive

groups. *Masculinity versus femininity* refers to the distribution of roles between the sexes. *Uncertainty avoidance* is the last dimension and indicates to what extent a culture programmes its members to either avoid or accept situations that are characterised by a lack of certainty.

Cultural values result in differences between culture groups regarding the concept of time, as well as their time usage patterns for work versus social/leisure activities (Manrai & Manrai, 1995:115). This points to the inherent potential for tension in cases where shareholders and their appointed managers have a predominantly individualistic culture which is extremely time conscious and emphasises promptness to save time, while a significant portion of the workforce is characterised by a collectivistic culture which places more value on the social context of interactions. In cases like these, the same promptness that is considered a virtue by management will be regarded as haste and impoliteness by workers with a different concept of time and time usage (Manrai & Manrai, 1995:118). These differences are complicated in South Africa where the nature and meaning of work for some employees go beyond the functional value thereof, because work has been associated with an economic commodity that can be given or withheld in exchange for psychological and social rights (Arumugam, 1996:26). Although the existence of different cultures has the potential to lead to conflict at the workplace, it can be put to productive use if managed properly. This presupposes that the issue of diversity is not avoided and that everyone is treated fairly, which means being treated the same as everyone else, while the differences between employees are recognised (Goldstein & Leopold, 1990:87). Managers therefore need to be sensitive to these differences and even more importantly, stay abreast of effective strategies for responding adequately to these differences (Wooldridge, 1994:383).

The demographic make-up of a country must also be considered when labour-related risks are evaluated. South Africa's population grew at an annual rate of 2,39 per cent between 1980 and 1991 and in 1994 amounted to approximately 40,2 million people (Barker, 1995:34-36). The labour force amounted to 13,6 million in 1991 (of which 68,7 per cent were blacks, 18,0 per cent whites, 10,4 per cent coloureds and 2,9 per cent Asians) and is expected to increase to 23,1 million by the year 2011 (of which 77,3 per cent is expected to be blacks, 11,8 per cent whites, 8,5 per cent coloureds and 2,4 per cent Asians) (Sadie & Martins, 1994:12). Females are expected to increase from 38,6 per cent of the labour force in 1991 to 42,3 per

cent of the labour force by the year 2011 (Sadie & Martins, 1994:12). Unemployment in 1991 amounted to anything between 2,1 million and 3,6 million people depending on the assumptions made (Barker, 1995:116-117), while an economic growth rate of at least eight to nine per cent per annum is required until the year 2011 for the formal economy to absorb the increase in the labour force (Sadie & Martins, 1994:19). These figures indicate an oversupply of labour in quantitative terms, compared to the labour absorption capacity of the South African economy.

The resultant social burden on the economy is aggravated by the influx of illegal immigrants to South Africa. Conservative estimates put the number of illegal immigrants living in South Africa in 1994 at between two million and 3,5 million people (Minnaar, Pretorius & Wentzel, 1995:33). This illustrates that poverty anywhere constitutes a danger to prosperity everywhere (irrespective of how little that may be) (Otting, 1993:163).

The skills and education of the population is the last aspect of the social environment that needs to be taken into consideration when labour-related risks are assessed. Although South Africa is characterised by a surplus of labour in quantitative terms, the same cannot be said of the quality thereof. This aspect can best be appreciated if the supply of entrepreneurial skills in South Africa is analysed. Although blacks need 90 per cent of all job opportunities over the period 1991 to 2011, they are only responsible for the supply of approximately four per cent of entrepreneurial skills, while the white group, who is responsible for 85 per cent of the supply of entrepreneurship, will have a share of only three per cent of the increase in the total labour force over this period (Sadie & Martins, 1994:20). As a result of this, whites will be able to provide only four entrepreneurs for each 1 000 of the increase in black labour force members, while blacks will have to expand their entrepreneurial cadre in the formal sector eleven times over the above-mentioned period of 20 years to compensate for the economic imbalance (Sadie & Martins, 1994:20). The latter will be a tall order for blacks to meet, because the literature indicates that differences in skills and labour market outcomes among ethnic groups may persist across generations, and need never converge (Borjas, 1992:148). This situation may not be viable and will in all probability contribute to the existing high levels of unemployment, underemployment and poverty in years to come. Sadie and Martins (1994:20) are of the opinion that there is no more severe and insidious structural defect in the economy than this.

Trade unions as social institutions can play an important role on the enterprise level to meet the challenge of an insufficient supply of skilled workers, while on the national level they can assist Government in promoting policies to cope with these pressures (Sugeno, 1994:519). Success in this regard is not only important for business, but also for trade unions, because their future success will depend to a large extent on their ability to understand and address issues of importance to a changing labour force who are in pursuit of market-related skills (Mosca & Pressman, 1995:163). This stresses the need for trust between the labour force and management to be able to adapt to unanticipated contingencies in a flexible manner (Lorenz, 1992:456), because in this way they can demand a more favourable rating by institutional investors as providers of capital.

2.4 The technological environment

The impact of technology on labour has received a lot of attention in recent years, especially since global unemployment has now reached the highest level since the great depression of the 1930s, with more than 800 million human beings now either unemployed or underemployed worldwide (Vogl, 1995:42). The opinion is generally held that the world is currently in the early stages of the Third Industrial Revolution. First was steam and coal; second was electricity, oil, and the assembly line; and the third is the computer and telecommunications - the Information Age (Vogl, 1995:42). The impact of the technological environment on labour-related risks can be divided into its effect on employment levels, as well as its impact on production processes and the employees who perform the work. In what follows, these aspects receive the necessary attention.

The deterministic theory of the competitive firm suggests that a rise in productivity leads to rises in both optimal employment and output (Firoozi, 1994:301). This implies that technological advances which improve labour productivity will result in an increase in employment while output rises. Empirical studies have shown that the above-mentioned theory does not hold in practice and that cases are often found where reductions in employment (in other words, the labour force) occur irrespective of technological advances, which lead to improvements in labour productivity and output increases (Firoozi, 1994:301). The world might indeed witness a permanent downsizing of the human labour force (Shostak, 1993:33). The view that labour might be facing an uncertain future is highlighted by the

computer revolution which is clearly about boosting productivity and minimising "unneeded" workers (Freund, 1992:5). This implies that possible reductions in the labour force will not necessarily be spread proportionately between countries, industries and/or enterprises. This argument is based on the fact that job losses, to an extent, will be made up by the creation of new jobs. There is no guarantee, however, that any of these newly created jobs will match the old ones with respect to skill or location. Where the mismatch is severe and/or prolonged, economists speak of "structural unemployment" (Freeman, Soete & Efendioglu, 1995:587). The potential for structural unemployment will become more obvious once the impact of the technological environment on production processes and employees has been investigated.

Futurists generally agree that, although the timetable might be debatable, the concept of mass production and mass labour is becoming a thing of the past (Vogl, 1995:43). Technological change contributes to this trend, because it helps in overcoming the barriers of time and distance, thereby enhancing the control capabilities and accelerating the intensity of cross-border interactions of all sorts (Campbell, 1994:186). In this manner, computers have made it possible to connect different production events at different factories with great efficiency, thus creating unprecedented flexibility (Freund, 1992:3). Production can therefore be divided between various enterprises in different countries depending on relative input costs and market needs. Although shareholders and the enterprise's target market might benefit from the greater flexibility in the manner that goods are manufactured, it tends to weaken the bargaining power of the labour force who get fragmented in the process and therefore are less able to speak with a united voice. This reduction in the power of labour does not exclude labour unrest, especially if labour is of the opinion that they are not being treated fairly and are supported in this by their respective communities. This implies that labour-related risks as a result of technological change will be less for enterprises if their employees are not negatively affected by it and/or are treated fairly in that regard. In what follows, the latter two aspects are dealt with in greater detail.

To the extent that technological change has, or is expected to have an impact on an enterprise, labour-related risks will be reduced if employees are equipped with market-related skills. This is of particular importance because greater-than-ever tensions are likely as the ability of equipment increases (Shostak, 1993:33). The latter specifically applies to the unskilled component of the labour force, because the sufferers overwhelmingly are those who are

deficient in education and industrial skills (Freund, 1992:8; Machin & Van Reenen, 1998: 1 217). This is also borne out by international studies which have indicated that the rate of unemployment for less educated, low-skilled workers has been much higher than the rate for the better educated (Freeman et al., 1995:599). This does not imply that the risk of becoming redundant is limited to those who are employed in the lower ranks of the manufacturing industry, because the world is moving towards a "post-service" society in which most routine and repetitive service jobs are significantly reduced or eliminated (Shostak, 1993:30). Clerical workers in, for example, the banking and insurance industries are also at risk. Given the preceding information, institutional investors need to determine to what extent the labour force of an enterprise is exposed to the impact of technological change and evaluate the steps taken to ensure that they can continue to earn a living. Although the majority of the literature deals with the problems which unskilled workers are experiencing in this regard, it does not imply that institutional investors should ignore the training needs of skilled workers whose task is becoming harder as a result of advances in technology (Treynor, 1994:6). Institutional investors should also ascertain to what extent the expertise of skilled employees who play a meaningful role in the enterprise is subject to obsolescence and whether the necessary opportunities exist for them to update their skills.

Empirical results have indicated that workers cannot stop technology, and those industrial actions which have tried to do so have failed sooner or later (Freund, 1992:4). This emphasises the need for management and the labour force to co-operate, because industrial action can be costly to an enterprise, even if it does not achieve its goal of preventing new technology from being implemented. Co-operation requires that both management and the labour force should treat each other fairly and with respect. Management has an important role to play in this regard and should keep in mind that, although they might prefer to preserve their right to organise work, the focus of negotiations should rather be shifted from the outcomes of technological change to the process of change itself (Thomas, 1991:167). Research results indicate that, to diminish conflict, technological change should be conceptualised as a process with three analytically distinct "moments" and that formal co-operation should be firmly established in, and then bridged between, each of these moments. These are a moment of development, a moment of resource allocation and a moment of deployment (Thomas, 1991:189). This indicates that institutional investors can improve the reliability of their assessment of labour-related risks by investigating the extent and manner in

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which management and the labour force co-operate when they deal with the impact of technological change.

3. COMPANY-SPECIFIC FACTORS RELEVANT TO LABOUR-RELATED RISKS

Once institutional investors have investigated the impact of the external environment on labour relations at the enterprise, they can proceed to analyse company-specific factors relevant to labour-related risks. This requires an assessment of the track record of labour relations, as well as the legal framework in which labour relations are practised, and existence of behavioural agreements between the company and its labour force. It further entails an investigation of the existence of sound labour relations practices at the enterprise. Once institutional investors are able to judge the soundness of labour relations practices at the enterprise, the contingent liabilities for the enterprise in respect of the labour force should receive the necessary attention. Thereafter it is important to determine whether adequate labour resources are available to meet the future labour force requirements of the enterprise. This is followed by an assessment of the enterprise's view of the labour force, after which the analysis of company-specific factors relevant to labour-related risks is concluded with an investigation of the labour force's view of the enterprise.

3.1 Track record of labour relations

Institutional investors can improve their understanding of the track record of labour relations at an enterprise by focusing on labour disputes. In this regard, emphasis should be placed on the causes of industrial conflict, as well as on the typical behaviour used to solve conflict in the past. The track record of labour relations is further reflected by employee turnover and absenteeism at the enterprise, the historic timing of labour unrest, as well as the historic trend of creating value in the business. These aspects now receive the necessary attention.

3.1.1 Labour disputes

The expression of the labour force's dissatisfaction with the employment relationship was investigated to form a *preliminary* opinion regarding the importance of labour-related risks for the operations of the enterprise. The various ways in which conflict manifested itself in

the past is therefore known to institutional investors as a result of the preliminary study. At this stage, it is necessary to identify the causes of industrial conflict, as well as to investigate typical behaviour used to solve previous conflict situations. By doing this, institutional investors will also be able to determine the time needed for management and the labour force to come to a solution in the past and whether conflict historically escalated before a solution was reached. This will put institutional investors in a better position to judge whether this type of behaviour can be expected to continue in future.

Conflict implies interaction between two or more persons or groups of persons and is manifested in human behaviour (Nel & Van Rooyen, 1996:171). Conflict can therefore be analysed and its causes identified, after which the latter can be categorised to determine whether the aspects which have caused conflict in the past have anything in common. The identification of any commonalities which have persisted over time will enable institutional investors to judge whether these common causes of conflict are likely to contribute to future conflict. The three major categories of causes of conflict are as follows (Tustin, 1996:71-72):

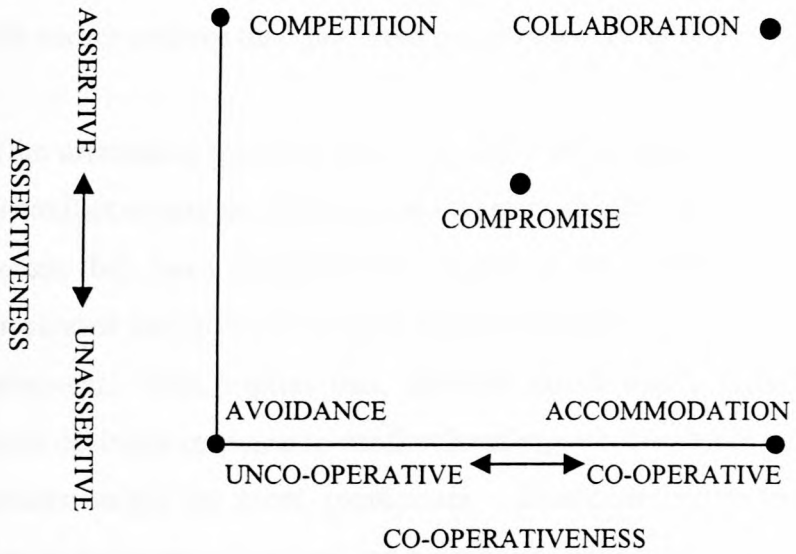
- *Distributive causes*. These relate to conflict that arises in the formulation or operation of the economic or substantive contract or agreement. They are based on the problem of the allocation or distribution of rewards for the performance of work. The initial stimulus for the conflict may not necessarily emerge from within the organisation, but from the market situation beyond the organisation's boundaries. For example, if the price of labour rises in the labour market, it is likely to produce a demand from the organisation's employees for a commensurate increase.
- *Structural causes*. These relate to the sort of problems that emerge from the interactions brought about by the formal structure of the organisation and usually result from failure to structure the organisation properly, or failure to adapt its structure in times of change in order to deal with the role and authority problems of the organisation. This area of conflict is not always manifested as clearly as distributive conflict and, for this reason, does not receive as much attention in industry.
- *Human relations causes*. These relate to the sort of problems that emerge from the more informal, interpersonal level of interaction. Here the problem may be a clash of personalities, people with differing views disrupting social relations, the development and changing of attitudes. This is an important area of conflict because all conflict is

ultimately manifested at the human relations level, whether its cause be based at the distributive or the structural level.

Once these primary causes of conflict between management and the labour force have been identified and classified, institutional investors can investigate the merit of each party's claims and judge whether the original stimulus for conflict had substance or was trivial in nature. These original causes or stimuli of conflict should be compared with the behaviour of the parties concerned to determine whether their actions can be regarded as reasonable under the particular circumstances or whether it was excessive. In this way, institutional investors will be able to determine whether management and the labour force usually deal with conflict situations in a capable and amicable way or whether they are in the habit of allowing it to escalate unnecessarily over time, before coming to an agreement.

The various types of conflict-handling behaviour can be classified by making use of the Kilman Thomas conflict orientation model (Robbins, 1991:435). This model has a dimension for co-operation that ranges from unco-operative to co-operative on the horizontal axis, while the vertical axis provides a dimension of assertion that ranges from unassertive to assertive. In this regard, co-operation refers to the degree of concern revealed by the parties for maintaining a viable relationship, while assertion can be regarded as a measure of the importance to a party of achieving a personally preferred outcome. Although there are an infinite number of conflict handling behaviours, five cardinal points are identified for the purpose of illustrating typical conflict behaviour. These typical conflict behaviours are illustrated in Figure 3/2.

FIGURE 3/2 : THE KILMAN THOMAS CONFLICT BEHAVIOUR GRID



The five typical conflict behaviours illustrated in Figure 3/2 can be summarised as follows (Van Uytrecht, 1995:37-39):

- *Avoidance behaviour.* Occurs where a party is neither assertive nor co-operative. Such behaviour may be typical of a party who is conflict-averse or where neither party judges the conflict situation to be particularly important. According to Robbins (1991), avoidance behaviour may take the form of either suppression or withdrawal.
- *Competition behaviour.* Occurs where a party is very assertive (the importance of achieving a preferred outcome is high) but also unco-operative (a low concern for the relationship). Competition behaviour is characterised by hostile, and sometimes even violent action designed to force the other party to concede to demands, and may also be an indication of conflict escalation.
- *Accommodation behaviour.* Occurs where a party is unassertive and co-operative. Accommodation may also be a form of appeasement by a conflict-averse party or may occur where the relative power balance between the parties lies overwhelmingly in favour of the other party.
- *Compromise behaviour.* Occurs where a party is prepared to compromise on certain elements of the preferred outcome (therefore neutral as far as assertiveness is concerned) in order to ensure that the other party can also be reasonably satisfied with the outcome to the conflict (the party is therefore neither fully unco-operative nor fully co-operative). Compromise behaviour is typical of the behaviour where neither party fully achieves its preferred outcome.

- *Collaborative behaviour.* This type of behaviour provides the theoretically most desirable response to conflict handling. Collaborative behaviour is designed to ensure that both parties achieve their preferred outcome as nearly as possible.

When the conflict orientation model is used to classify the behaviour of management and the labour force in conflict situations, institutional investors should be careful not to arrive at any conclusions before they have considered the cause of the conflict and the circumstances which have surrounded the particular issue at the time when management and the labour force were in disagreement. This implies that, although collaborative behaviour might be the theoretically most desirable response to conflict handling, situations can occur when the other types of behaviour might be more appropriate. Examples in this regard occur where management has to make use of competition behaviour due to a serious and immediate threat by a competitor or where common sense demands that a particular issue be avoided and not be blown out of proportion when it is obvious that the problem can be solved without dealing with it directly.

Institutional investors should analyse historical labour disputes in a balanced way. If the conclusion can be made that the relationship between management and the labour force is built on mutual trust, then past labour disputes should not be viewed in a negative light as far as the future is concerned (Van der Merwe, 1994:142). In contrast, if the historical causes for conflict still exist and are perhaps even expected to intensify, industrial peace is likely to be interrupted, especially if management and the labour force have little in common and distrust each other's motives (Swanepoel, 1992:40).

3.1.2 Employee turnover and absenteeism

In addition to labour disputes, institutional investors should also investigate historic employee turnover and absenteeism to improve their understanding of the track record of labour relations at the enterprise under consideration. In order to be able to do a proper analysis, institutional investors need to understand the nature of employee turnover and absenteeism, as well as the costs that are involved. Such an analysis will indicate whether employee turnover and absenteeism are within acceptable norms or whether it is the symptom of deeper underlying problems.

Employee turnover occurs when an employee retires, resigns, dies or is dismissed. In each case, except mandatory retirement or death, the turnover presumably is an attempt to correct a suboptimal match between the employee and the enterprise (Furtado & Karan, 1990:60). Resignations, in particular, should receive attention, because it usually takes the enterprise by surprise and causes disruption in operations for which the organisation might not be prepared (Boshoff & Arnolds, 1995:71). This does not imply that all employees who resign are dissatisfied, because some employees might regard it as normal and even desirable to leave a job as soon as a better alternative becomes available. It is therefore possible to distinguish between career advancement turnover and counterproductive turnover which may occur when a person's dominant mode of adjustment to worklife is to psychologically or physically withdraw from a stressful or burdensome situation (Joy, 1989:92). Both these types of turnover are disruptive to the operations of an enterprise and therefore an effort should be made to appoint employees whose psychological profile and career objectives are compatible to the needs of the particular enterprise.

It can be deduced that employee-initiated turnover entails more than the employee's decision to resign, because it is likely to be preceded by a period during which the employee weighed up the advantages and disadvantages of leaving the enterprise. The period of time involved in this process may vary given the distinction which can be made between cases where a distinctive event results in the employee thinking about the possibility of resigning (for example where another organisation offers the employee a job) and cases where turnover is a result of a gradual assessment by the employee of his current and future attachments to the enterprise through a compatibility test (Taylor & Giannantonio, 1993:491-493). To the extent that an employee becomes convinced that his/her beliefs, values and goals are not compatible with that of his/her employer and other job opportunities within the enterprise are unavailable or unattractive, he/she will start to consider other alternatives to withdraw from the organisation. This entails disengaging mentally or emotionally from the organisation, which leads to higher absenteeism and lower enthusiasm and effort (Russ & McNeilly, 1995:57). Employee turnover and absenteeism therefore differ from each other, because, in the case of resignation, employees remove themselves from the organisation and their work, while in the case of absenteeism, employees try to minimise the time spent on work tasks while maintaining the organisational relationship (Taylor & Giannantonio, 1993:494). In both cases, the cost to the enterprise can be significant (Gemignani, 1998:10; Russ & McNeilly,

1995:57; Sundoo, 1998:19). This provides the rationale for institutional investors to pay attention to these aspects, because it will indicate to what extent the financial performance of the enterprise can be improved by reducing the cost of turnover and absenteeism.

When analysing turnover data, it is important to go beyond an analysis of the company-wide turnover rate and determine the rate by division, function, tenure, gender, race and performance level (Oh, 1996:12). A detailed analysis might, for example, reveal that, although the enterprise's total turnover rate is low, the turnover within a particular department, such as the information technology department, might be extremely high with potentially detrimental consequences to the enterprise's expected future financial performance. With this in mind, the cost of employee turnover can be estimated. These costs include the costs incurred in replacing terminated employees such as the administrative costs associated with recruitment, selection, training and development (Joy, 1989:88). There is also an intangible component involved, because turnover might have an adverse impact on overall efficiency and worker morale (White, 1995:15). The implication is that the true cost of employee turnover cannot be determined without considering employee performance (Williams & Livingstone, 1994:269).

From the preceding discussion, it is evident that various factors in various degrees, either directly or indirectly through job satisfaction and job commitment, impact on the withdrawal intentions of employees which either manifest as absenteeism or employee turnover (Davenport, 2000:6). In both cases the cost to the enterprise can be significant with potentially detrimental consequences to the enterprise's expected future financial performance.

3.1.3 Timing of labour unrest

Institutional investors will have a better understanding of the track record of labour relations if they also consider the timing of past labour unrest. If the timing of labour unrest has displayed a distinctive pattern over time, institutional investors will in all probability be in a more favourable position to predict the future occurrence of labour unrest. The task of institutional investors to predict the future occurrence of labour unrest will be more complicated if labour unrest used to occur on a random basis. If the impression is created that

labour unrest was timed to seriously harm the operations of the enterprise, prospects for the immediate future will not be as favourable as when the timing thereof took due consideration of the needs of clients or customers.

For a better understanding, labour unrest can be classified in various ways. These classifications are not mutually exclusive and should be applied and interpreted together to get the best results. In the first place, a distinction can be made between regular labour unrest and that which has occurred on a random basis. Regular labour unrest will in all probability point to continuing underlying differences between the labour force and management which are not properly dealt with and/or avoided, while random labour unrest might be attributed to exceptional circumstances, if it does not occur often.

It is also possible to classify labour unrest in terms of the business cycle. In this regard, a distinction can be made between labour unrest that occurs during the upward phase of the business cycle and that which occurs during the downward phase. In both cases it will be important to determine whether the labour force and management treat each other in a fair and equitable manner. During the downward phase of the business cycle, it would be unfair of management to expect the labour force to carry a proportionally heavier burden than the other stakeholders of the enterprise. During the upward phase of the business cycle, it is reasonable to expect the labour force to recognise the need for retained income to fund future growth on a sustainable basis, as well as the valid claims from the providers of risk capital for a fair risk-adjusted return on their investments.

It is also important to determine whether labour unrest in the particular enterprise follows the trend within the industry. If labour unrest at the enterprise is merely a reflection of labour unrest in the rest of the industry, then the conclusion can be made that labour relations at the particular enterprise are no better or no worse than that of the rest of the industry. Labour relations at the particular enterprise should be viewed in a positive light if they do not follow the trend of the industry, but remain stable irrespective of labour unrest in the rest of the industry.

Labour unrest can be classified based on its timing relative to the process of negotiations between management and the labour force. In this regard, it is important to determine

whether labour unrest provides evidence of an immature and impatient relationship between management and the labour force or not. Labour unrest which occurs under such circumstances acts as a deterrent to financial investments, while labour unrest which occurs in a responsible way as part of the bargaining process will be regarded in a less negative light.

As a last consideration, labour unrest can be classified according to its effect on the financial year-end of the enterprise. Labour unrest which is specifically timed to be disruptive to the financial year-end of the enterprise should be viewed in a negative light, while labour unrest which is timed in such a way as not to cause unnecessary financial harm to the enterprise, is commendable under the circumstances and points to the existence of goodwill between management and their subordinates.

Based on the preceding discussion, it can be concluded that consideration of the timing of labour unrest provides valuable insight into the culture of labour relations at enterprises. In addition, it assists institutional investors in their efforts to predict future labour stability with more confidence.

3.1.4 Historic trend of creating value in the business

An investigation of the historic trend of creating value in the business can improve institutional investors' understanding of the track record of labour relations. It provides an indication of the historic co-operation between the labour force and management, as well as of the quality of management. An enterprise with a proven track record of value creation for its stakeholders will more often than not be characterised by a good working relationship between management and the labour force, as well as harmonious industrial relations. The historic trend of creating value in the business is important for the purpose of financial investment decision-making, because it provides an indication of the affordability of labour for the particular enterprise. This implies that financial difficulties within a particular enterprise will tend to complicate the relationship between management and the labour force and increase the tension between them. Profitable organisations will therefore be in a better position to accommodate demands by the labour force for an improvement in their financial position.

Given the favourable environment within value creating enterprises for sound labour relations and its importance for the purpose of financial investment decision-making, it is necessary to pay attention to the various indicators of value creation and their relevance for labour-related risks. Institutional investors can, in the first place, consider various financial indicators to improve their understanding of value created in the enterprise. The first of these would be a good profit record, which not only means that the enterprise has been profitable, but also that profits have been growing at a steady rate. This does not imply that profit will be measured in the same way by all enterprises, nor that it will be interpreted uniformly by all institutional investors. In this regard, empirical evidence, for example, suggests that international accounting diversity still exists (Choi & Levich, 1991:73). The implication of this is that institutional investors from different countries might arrive at different interpretations of the reported profit figure.

Economic value added can be regarded as a second financial indicator of value created in the enterprise. This financial indicator is unsuitable for the purpose of international comparison, because it is even more contextually biased than measures of profit, because capital costs continue to be strongly influenced by local factors, despite the increasing internationalisation of financial markets (Gray, 1995:274). Cash flow which could be assessed in the context of operating, investment and financing activities is relatively independent of cultural influence and therefore seems to be an important indicator of financial viability, as well as future potential (Gray, 1995:274).

Market value added can be distinguished from the other financial indicators of value creation, because it also provides an indication of the general investment public's opinion of the state of affairs at the enterprise concerned (O'Hanlon & Peasnell, 1996:44). It therefore is also a future orientated financial indicator based on market consensus. An inherent disadvantage of this financial indicator is that it refers to the stock market returns for investors without specific consideration of the needs of the labour force or the way they were treated. In other words, an above average increase in the market value of the enterprise could have been achieved on top of a labour force which was not fairly treated financially, which might result in a future increase in labour-related risks.

Value added, being defined as the value of outputs less the cost of externally purchased inputs as depicted in the value added statement, is a measure which significantly limits the impact of culturally influenced measurement practices compared to profit (Gray, 1995:274). This is because it is a measure of gross output, in other words before taking account of employee and other internal costs. In contrast to value added which is a measure of gross output, economic value added represents the difference (expressed in rand terms) between what the enterprise has earned on total capital and the cost associated with this capital. Value added will therefore have a wider appeal among the stakeholders of the enterprise than economic value added which is based on a reward for capital (Schuitema, 1993:14). In addition, the value added statement does not only provide an indication of the value which has been added, but also discloses how wealth has been distributed between the various stakeholders. Value added can therefore be regarded as a superior financial indicator when labour-related risks are assessed, because it gives fair recognition to the contributions of employees as an asset of the enterprise which should be nurtured, in contrast to profit orientated measurements which do not treat labour as an asset but as a cost to shareholders. It has the added advantage that it avoids possible differences of opinion regarding the cost of capital which might occur when economic value added is calculated.

In addition to financial indicators of value that have been created in the business, various non-financial indicators are available which are also of importance in this regard. The reason for their importance is the financial indicators which were not designed to cope with the valuation of intangible corporate capabilities (Tapsell, 1998:37-41; Vitale & Mavrinac, 1995:44; Wurzburg, 1998:42). In the short term, investments in these intangible corporate capabilities might constrain profit margins, but over the longer term might prove to be essential to generate continued prosperity, which is a basic requirement for labour stability. Non-financial indicators of value creation will therefore help to provide a more balanced assessment of corporate wellbeing, which is necessary, given the greater competition world-wide as well as the changes in the technological base of enterprises (Hequet, 1996a:42). The purpose of non-financial indicators in addition to financial indicators should therefore be to gauge the overall performance of the enterprise and not only that part which can be derived from the financial statements (Higson, 1995:104). Examples of non-financial indicators of value creation include customer value added (Ferling, 1993:51), measures of cycle time and other non-value-added time (Ramanathan & Schaffer, 1995:82) and measures of new product

development (Hequet, 1996a:41). Notwithstanding contribution measures such as these, non-financial value created in the enterprise remains impossible to quantify with any degree of accuracy.

In conclusion, the question arises as to how institutional investors should choose between the various measures of value creation. The answer to this question is not simple, because the circumstances of enterprises as well as institutional investors can vary greatly. In general, one can expect financial indicators of value creation to be of great importance to institutional investors. The value added statement will be of great help in this regard, although this does not imply that the other financial measures should be ignored. Institutional investors should also determine whether the value created in the enterprise, as well as the distribution thereof, corresponds with the strategy of the enterprise. This implies that an enterprise with a historically low figure of value creation in financial terms or an apparent unjust distribution of such value between the various stakeholders, should not necessarily be disqualified for investment purposes. The value created, as well as the distribution thereof, could have been budgeted for and agreed upon by the various stakeholders to achieve the long-term goals of the enterprise. An example in this regard would be a loss-making enterprise in the electronic industry that is perfectly on track in the development of computer software which will be in high demand in years to come. To a certain extent this also explains the value of the non-financial indicators, because it provides an indication of the opinion(s) of the selected stakeholder(s) as to whether they are fairly treated. In this regard, it is interesting to note that enterprises that pursued strategies founded on innovation and new product development (strategies that are fundamentally long-term in scope) tended to favour non-financial measures to determine executive rewards (Andrews, 1996:8-9). Based on the preceding discussion, it is obvious that the various indicators of value creation are not equally suitable for all situations and that the best approach would be for institutional investors to use a number of measures (Light, 1998:17-20; Thor, 1995:131), each weighed in accordance with its importance depending on the particular circumstances.

3.2 Legal framework in which labour relations are practised

Through its legislative function, it is possible for governments to interfere in labour relationships in varying degrees. The extent of interference depends on political preferences

necessary to achieve economic and social goals for the society at large. The interference by governments might range from cases where they merely provide the legal framework for the conduct of labour relations on the one hand to cases where they adhere to the principle of absolute or maximum control of all aspects of the labour relationship. Although the South African labour situation is not free from government interference, the general approach of government is to provide employers and their employees with the legal framework to maintain peace in the labour relationship. In this regard the Labour Relations Act has, amongst other things, as purpose "to provide a framework within which employees and their trade unions, employers and employers' organisations can collectively bargain to determine wages, terms and conditions of employment and other matters of mutual interest; and formulate industrial policy; and to promote orderly collective bargaining; collective bargaining at sectoral level; employee participation in decision-making in the workplace; and the effective resolution of labour disputes" (Labour Relations Act of 1995, as amended, sections 1(c) - 1(d)).

Although the extent to which the South African government interferes in the labour relationship through its legislative powers has an important impact on job creation and eventually labour-related risks, the focus here is rather on the direct impact of labour legislation on labour-related risks. The focus is not on the standards that labour legislation sets (to try and create certainty in the labour relationship), but rather on the less obvious potential of the Labour Relations Act to contribute to uncertainty as far as institutional investors are concerned. The relevance of the Labour Relations Act results from its purpose to provide a framework within which collective bargaining can take place, as well as the superior status which is granted to this Act. With this in mind, it is important to take into account that in the case of any conflict between the provisions of the Labour Relations Act and other Acts (except the Constitution), priority will be given to the provisions of the Labour Relations Act (Labour Relations Act of 1995, as amended, section 210). In what follows, cases that are presented reveal where the Labour Relations Act has the potential to contribute to labour-related risks as far as institutional investors are concerned.

In the first place, it is important to note that the Labour Relations Act gives protection to the right of employees to strike (Barker, 1999:25; Singh, 1996:5). It grants employees the right to strike without fear of dismissal once certain prescribed procedures have been followed

(Labour Relations Act of 1995, as amended, section 64). Employees who do not adhere to these prescribed procedures also do not face criminal action (Cooper, 1996:81). Instead, they do not receive the protection that flows from such compliance. For instance, employees who strike without following the prescribed procedures will not receive protection from dismissal (Cooper, 1996:81). Subject to certain conditions, the Labour Relations Act also allows sympathy strikes, picketing and protest actions to promote or defend socio-economic interests of workers (Labour Relations Act of 1995, as amended, sections 66, 69 and 77). This can be interpreted as acknowledgement by the legislator that no amount of legislation can prevent strikes from occurring. At best it can provide the framework for the rapid settlement of disputes. On the other hand, the granting of an unlimited right to strike, and particularly the legitimisation of socio-economic protests within the labour relations situation, provide cause for concern, especially in the volatile labour relations climate still existing in South Africa and with a view to the unsatisfactory economic situation (Bendix, 1996:540).

Another aspect of the Labour Relations Act which causes a lot of uncertainty is revealed when employers decide to dismiss employees due to operational requirements. In such cases it is the obligation of the *employer* to prove that the dismissal is not unfair (Labour Relations Act of 1995, as amended, section 188(1)(a)(ii)). The dismissal will, for example, be unfair if the employer cannot prove that everything possible was done to enable employees to perform at the best of their capabilities. In addition, a number of conditions must be met to prevent the dismissal from being classified as unfair. This includes either consultation in terms of a collective agreement, consultation with a workplace forum in the absence of a collective agreement or, should a workplace forum not exist, consultation with any registered trade union whose members are likely to be affected by the proposed dismissals (Labour Relations Act of 1995, as amended, sections 189(1)(a) - (c)). If there is no such trade union, then the employees likely to be affected by the dismissals or their representatives nominated for that purpose, should be consulted. It is not only the obligation of employers to consult, but also the timing of such consultations, which have the potential to complicate dismissals. The Labour Relations Act is very vague in this regard and requires that consultation should take place as soon as the employer *contemplates* the dismissal of employees as a result of operational requirements (Labour Relations Act of 1995, as amended, section 189(1)). A further complication is that it is required from the consulting parties to attempt to reach consensus on appropriate measures to avoid the dismissals, to minimise the number of

dismissals, to change the timing of the dismissals and to mitigate the adverse effects of the dismissals (Labour Relations Act of 1995, as amended, section 189(2)(a)). They must further attempt to reach consensus on the method for selecting the employees to be dismissed and the severance pay for dismissed employees (Labour Relations Act of 1995, as amended, sections 189(2)(b) - (c)).

The obligations on employers as discussed, as well as the cumbersome process prescribed before any employee can be dismissed, results in another labour-related risk, that is the inflexibility of labour (Brodsky, 1994:55). To be more specific, it reduces the ability of an employer to alter the size of the labour force (Horwitz & Erskine, 1995:27), which adds to fixed costs with a resultant increase in the operational risk of the company concerned. This type of labour flexibility is referred to as numerical flexibility and has been the most controversial form of labour flexibility (Treu, 1992:498). The inherent risk in this regard is aggravated to the extent that restrictions exist on the hiring of employees (for example, affirmative action) as well as the extent to which employers are not free to decide on the use of temporary workers (Treu, 1992:498-503). To combat these risks, companies will become more restrictive in their hiring practices (Meyer, 1996:13), which will eventually also lead to higher labour-related risks, depending on the impact of such risks on the environment in which they operate.

The establishment of workplace forums in terms of the Labour Relations Act is another aspect which institutional investors have to consider when assessing labour-related risks (Barker, 1999:22). Workplace forums were proposed as being required to perform functions that collective bargaining could not easily achieve and in this way to shift labour relations beyond the adversarial (Anstey, 1995:5). There, however, are certain aspects relating to workplace forums which have the potential to achieve just the opposite. The Labour Relations Act separates traditional collective bargaining by trade unions over wages and conditions of work from consultation and joint decision-making on production and human resources issues via workplace forums (Von Holdt, 1995:61). The creation of two worker structures in the workplace to deal with issues which are interrelated (Sugeno, 1994:513), has the potential to create tension between the bargaining structure and the workplace forum, as well as to create confusion and rivalry amongst employees, which is conducive to conflict. The alternative view would be that the creation of a division between employees will weaken

their power base and in that way make it more difficult for employees to negotiate and act collectively (Van der Walt, 1999:70). According to this view, employers stand to gain most from workplace forums (Lehulere, 1995:42). Another aspect which institutional investors have to take into account is that the obligation of management to consult with the workplace forum on a wide variety of issues concerning production and human resources has the potential to delay decision-making (Bendix, 1996:564). This labour-related risk will be of great concern in enterprises where swift decision-making is vital for survival in a rapidly changing business environment.

A final aspect which increases labour-related risks, relates to the obligation placed on employers to disclose all relevant information that will allow the workplace forum to engage effectively in consultation and joint decision-making (Labour Relations Act of 1995, as amended, section 89(1)). This fairly wide provision is limited to some extent, because the Labour Relations Act also stipulates that the employer is not required to disclose information that is confidential and, if disclosed, may cause substantial harm to the employer or its employees (Labour Relations Act of 1995, as amended, section 89(2)(c)). The inherent risk in this regard is that the employer's view of "confidentiality" and "harm" might differ significantly from that of the employees, which has the potential to lead to dispute situations in cases where employees demand disclosure.

In conclusion, although the Labour Relations Act is intended to provide employers and their employees with a framework to maintain peace in the labour relationship, it also contributes to labour-related risks as far as employers and institutional investors are concerned. These risks include the granting of the right to strike without fear of dismissal once prescribed procedures have been followed, the uncertainties facing employers when they want to dismiss employees due to operational requirements, the inflexibility of labour which it creates, further aggravated by restrictions on the hiring of employees, as well as on the use of temporary workers, while the establishment of workplace forums also implies certain labour-related risks. This has led various commentators to come to the conclusion that government's attempt to balance power and please the trade unions, has perhaps created a new power imbalance (Barker, 1999:24-25; Bendix, 1996:103).

3.3 Existence of behavioural agreements

It is generally accepted that passing protective labour laws and relying on government agencies or court actions to enforce them, are poor ways to deal with workplace problems (Freeman, 1995:529). In addition, flexibility is required at the enterprise level to respond to changes in the business environment (Lorenz, 1992:455). This stresses the need for employers and employees to be able, within the legal framework, to privately agree on aspects that they regard as important in the labour relationship. The Labour Relations Act recognises this need and enables employers and employees to enter into legally enforceable collective agreements (Labour Relations Act of 1995, as amended, section 23(1)). Both unionised and non-unionised employees can be made part of a collective agreement (Labour Relations Act of 1995, as amended, section 23(1)(d)) that binds the parties to the agreement for the whole period of the agreement (Labour Relations Act, No. 66 of 1995, as amended, section 23(2)). It is necessary for institutional investors to determine whether an enterprise has a collective agreement, which then has to be analysed for investment purposes, because it has the potential to limit labour-related risks which would otherwise have existed. The form and content of any such agreement may vary from one enterprise to another and will reflect the level of trust and co-operation between the parties involved. It is further important to note that more than one collective agreement may be applicable to a particular enterprise. This may include a recognition agreement, a wage agreement, an agreement on health and safety issues as well as agreements covering certain eventualities, such as retrenchment and the introduction of new technology (Bendix, 1996:466).

Although the preceding discussion provides an indication of aspects which can be privately arranged between employers and employees to bring more certainty to the labour relationship, it is of particular importance to pay attention to the ability of employers and employees to limit the labour-related risks which are inherent in the Labour Relations Act. Collective agreements can, in the first place, be used to limit the right of employees to strike. In this regard, the Labour Relations Act specifies that no person may take part in a strike, or in any conduct in contemplation or furtherance of a strike, if that person is bound by a collective agreement that prohibits a strike in respect of the issue in dispute (Labour Relations Act of 1995, as amended, section 65(1)(a)). In a similar way, collective agreements can be used to limit the right of employees to take part in a secondary strike (Labour Relations Act of 1995,

as amended, section 66(2)(a)). Institutional investors are therefore able to determine to what extent employers and employees have agreed to limit the possibility of strike action. The conclusion can be reached that the labour force will not be prepared to limit their right to strike unless they have a cordial relationship with their employer. Collective agreements can further be used to limit the functions of workplace forums. In particular, management and the labour force can agree to limit the legal obligation of management to consult with the workplace forum on issues concerning production and human resources (Labour Relations Act of 1995, as amended, sections 84(1) and 86(1)). In this way, the labour force will enhance quick decision-making by management without losing their right to be consulted regarding issues that are of great importance to them. As a result of this, collective agreements can be used to bolster the flexibility of labour. Employers generally welcome labour flexibility, because they are of the opinion that it helps them to adapt more speedily to turbulent and competitive markets (Treu, 1992:509).

Management and the labour force therefore are able to privately agree on issues which otherwise would have contributed to labour-related risks (Havenga, 1999:4-5). The Labour Relations Act enables employers and employees to privately agree on issues concerning the enterprise, and to establish legally enforceable collective agreements. These collective agreements have the potential to limit labour-related risks and can be used to limit the right of employees to engage in strike action, curb the powers of workplace forums and enhance the flexibility of labour. As a result of this, institutional investors need to investigate the existence of collective agreements between management and the labour force before formulating an opinion about the labour-related risks of a particular concern.

3.4 The existence of sound labour relations practices

Institutional investors need to consider to what extent an enterprise is characterised by sound labour relations practices when they assess labour-related risks for the purpose of investment decision-making (Wurzburg, 1998:41-44). Empirical work indicates that the use of effective human resource practices (or high performance work practices as they are otherwise labelled) are associated with lower employee turnover (Boshoff & Mazibuko, 1995:15; Campbell III, 1995:65; Huselid, 1994:79, 1995:667; White, 1995:15-17; Williams & Livingstone, 1994:287; Zenger, 1992:215-219) and can provide a direct and economically significant

contribution to enterprise performance (Huselid, 1995:636). It therefore also has an impact on labour-related risks, because eventually the latter are reflected in the performance of enterprises.

The study of labour relations practices at the enterprise requires that institutional investors pay attention to the recruitment and interviewing practices of the enterprise, the participation of the employees in decision-making, the sharing of information between the employer and the employees, the financial empowerment of the employees, the development of the human resources as well as the existence of reasonable working conditions and employment equity.

3.4.1 Recruitment and interviewing

The labour relationship commences when the prospective employee is recruited (Bendix, 1996:322). It is therefore imperative that employers make use of a proper method of recruitment and selection to ensure that the right type of employee is appointed. Studies have indicated that the hiring of better employees resulting from careful selection and screening provides the enterprise with more productive employees who are likely to stay longer (White, 1995:16). With this in mind, institutional investors should at least endeavour to determine to what extent prospective employees are subjected to recruitment and selection tests. This can be quantified by calculating the proportion of the labour force that has done an employment test prior to being hired (Huselid, 1995:646).

The interview with the prospective employee is another aspect that has the potential to impact on the future labour relationship. Interviews which are conducted should be preceded by careful planning to accurately assess staffing requirements. These performance expectations which employers have should be clearly communicated to prospective employees to prevent them from having unrealistic expectations (Larkin, 1995:35). This will also provide applicants with an opportunity to judge whether they will fit into the organisation, because it is readily accepted that different types of individuals are better at different types of jobs (Sims & Kroeck, 1994:939). Research has shown that employee turnover is likely to increase if the expectations of employees are not met and/or if there is a poor employee-organisation match (Jones & Crandall, 1991:16). Employers will be able to obtain information about the reasons for resignations at exit interviews. These should be carefully documented by enterprises and

disclosed to institutional investors to improve their understanding of the quality of communication that takes place when appointments are made.

It is therefore reasonable to expect that institutional investors should be able to judge the soundness of recruitment and interview practices of the enterprise under consideration. This is becoming increasingly important, since it is now accepted that it is the responsibility of the enterprise to find the right person for the right job. This responsibility cannot be taken lightly as it will be very difficult, after a period of time has elapsed, to claim that the incumbent is unsuitable for the position and, consequently, to dismiss him (Bendix, 1996:322).

3.4.2 Participation of the employees in decision-making

In the past, labour did not participate in decision-making on issues of production, but rather tried to influence the distribution of wealth (Pomeroy, 1995:17). This reduced the role of the labour force to that of a consumer of wealth rather than an active participant in creating wealth in co-operation with management. This lack of a common goal contributed to labour-related risks, which emphasised the need for an alternative approach. Such an approach entails the empowerment of employees, which means that management vests employees with decision-making or approval authority where, traditionally, such authority was a management prerogative (Gandz, 1990:75). As a result, the responsibility for decisions are placed further and further within the organisation, which makes everyone in the business a manager of his/her own workstation (Ripley & Ripley, 1992:21). The underlying philosophy of this approach is that closer involvement of employees in decision-making enables them to better relate to the aims and goals of the organisation and the potential for conflict is therefore reduced.

Armed with a better understanding of the concept of empowerment through employee participation in decision-making, as well as the underlying philosophy thereof, the question arises: why has this obvious theory not been implemented earlier by organisations? This can be attributed to the fact that empowerment was based on ideals or beliefs about how people should be treated from a humanitarian perspective in earlier times, whereas nowadays the imperatives of the business climate are driving enterprises to search for new ways to help them to survive (Gandz, 1990:74). The forces at work in this regard include the

internationalisation of markets, increased competition, rising consumer expectations and the introduction of new technologies (McKenna, 1995:25). These factors have made it imperative for enterprises to ensure that production processes are competitive and efficient. In recent years this has meant substituting capital for labour and relocating capital across national boundaries. Capital expansions generally increase the financial risk of the enterprise by increasing the variability of earnings in the long run. These risks are especially intensified if the labour force is not committed to these changes and participatory management has therefore been introduced to reduce the conflict between capital and labour (Gurdon & Rai, 1990:289).

From an organisational point of view, the participation of employees in decision-making can help to overcome conflict between employers and their employees. Furthermore it can bring about greater commitment and involvement on the part of employees and, thereby, greater motivation and higher productivity (Bendix, 1996:559). A concerted effort from everyone involved is therefore required to ensure that the participation of employees in decision-making assists the enterprise to meet the challenges of rapid change in the business environment.

3.4.3 Sharing of information between the employer and the employees

Individual employees do not work within a vacuum, but are constantly subject to various influences from within and outside the enterprise. This creates the need for organisational communication which has as its main aim to achieve mutual understanding between all the individuals working for the enterprise (Hall, 1995:39). The main purpose of communication is therefore to prevent misunderstandings. This limits labour-related risks, because misunderstandings breed uncertainty which, in turn, increases the potential for risk. The assumption is that employees' satisfaction with communication will impact on their work performance and therefore also on the financial performance of the enterprise (Clampitt & Downs, 1993:25). With this in mind, attention is hereafter given to a number of aspects that may have an impact on informational problems within enterprises.

Organisational culture is the first factor that has a fundamental impact on informational problems within enterprises (Brown & Starkey, 1994:824; Nyatsambo, 1999:8). Effective

communication is unlikely in enterprises that are characterised by a lack of trust between employees (Harari, 1995:33). In cases where employees do not trust each other, they will tend to withhold information and that will contribute to uncertainty and misunderstanding with a resultant detrimental impact on the future prospects of the enterprise.

The *diversity of the labour force* will also have an impact on the occurrence of informational problems in enterprises. The representation of various cultural groups on the staff of the enterprise will complicate communication due to different viewpoints and how information is interpreted. In South Africa, evidence exists that employees with African roots seem to experience greater misunderstanding and feelings of exclusion than members of the organisation from a Western background, as organisations function according to principles more familiar to the latter (Hall, 1995:43). Institutional investors also have to take into account that language diversity in the workplace will increase the potential for misunderstanding and labour-related risks, especially if there is not a common language in which everyone is fluent (Hall, 1995:42). Differences in educational levels will also contribute to labour-related risks, because this will increase the likelihood of misinterpretation of information. This aspect is pertinent in the South African situation where formal educational levels differ along racial lines and black workers sometimes have a limited understanding of Western business principles (Hall, 1995:42).

Mutual understanding is further affected by the *style of communication* in the enterprise. A hierarchical communication network is mainly suited for formal communication about work-related matters. Such a communication network, however, does not guarantee effective two-way communication between management and workers, especially if workers are not adequately trained to use formal communication methods such as written memorandums (Brown & Starkey, 1994:823). The employees of an enterprise also need to interact in an informal way to gain a better understanding of each other's views. This explains the role of oral communication, which is required to facilitate interpersonal relations within the enterprise.

The involvement of *trade unions* also has the potential to influence the sharing of information within the enterprise. Although trade union involvement creates an effective management-worker communication channel with the shop steward as the link, this same channel can

discourage interpersonal communication between management and workers (Hall, 1995:42). The conclusion can therefore be made that a unionised environment does not reduce the need for managers and workers to engage in direct communication with the aim of understanding each other better.

The role of management to mitigate communication-related risks should not be underestimated. This will include steps taken by management to increase opportunities for communication (Hildula, 1996:70), as well as enhancement of staff's ability for better mutual understanding through proper training (Hall, 1995:44).

As far as organisational communication is concerned, misunderstandings between employees and dissatisfaction amongst them with the way communication is conducted have been identified as important sources of labour-related risks. This places a responsibility on management to take the necessary steps to increase the opportunities for communication, as well as to improve the ability of employees to understand each other.

3.4.4 Financial empowerment of the employees

The interests of shareholders and the labour force do not necessarily coincide as far as the distribution of company resources is concerned. Shareholders generally want to maximise wealth (Evans & Weir, 1995:32), whereas employees hold claims with pay-offs similar to those of bondholders whose income remains fixed irrespective of the enterprise's performance (Garvey, 1992:160). This potential for conflict also applies to managers who may be eager to take actions which have relatively short-run returns in order to demonstrate success, while shareholder interests may be better served by longer-term actions (Evans & Weir, 1995:32). Institutional investors should be aware of these conflicting interests and determine to what extent an enterprise's compensation policy and practices have an impact on labour-related risks. The aspects to consider in this regard are discussed below.

Institutional investors should, in the first place, determine whether pay differentiation is applied fairly in the enterprise. Differences in pay, based on the different levels of income uncertainty (the uncertainty associated with a variable income) which employees are exposed to, is generally accepted as fair, and on average employees receive a positive wage differential

for income uncertainty (McGoldrick & Robst, 1996:222). It is also common practice to compensate employees for the skills, education and experience that they bring to the workplace. Throughout the world there is an expanding gap between the wages of highly educated, skilled employees and of people with little education and low skill levels (McMillion, 1994:10). This growing income inequality is fuelled by markets in which small differences in performance give rise to enormous differences in economic reward (Frank & Cook, 1996:44). It is therefore not only the absolute performance of an employee that matters, but rather his performance relative to that of the peer group. This explains, for example, why an enterprise which relies on human capital to be successful, would rather pay an above average salary to attract the best candidate for an important position instead of recruiting two ordinary people at less cost for the same position. In contrast to the above, pay differentiation based on race and/or gender cannot be regarded as sound labour practice, because no grounds exist to discriminate between employees who make similar contributions to the success of an enterprise.

The wage gap between top management and the rest of the labour force must also be considered when the compensation practices of an enterprise are evaluated. This aspect is especially important in cases where the wealth of top management is perceived to increase rapidly while the average wage for employees declines. In the United States of America this scenario has in recent years led to an escalating debate over the magnitude of executive compensation which is criticised by employees further down the ranks, union officials, shareholders, as well as the general public (Wilson, Chacko, Shrader & Mullen, 1992:496). Chief executive officers' response to this growing criticism in the United States of America have been that merit exists for the pay they receive as long as it is based on performance (Wilson et al., 1992:496). Notwithstanding the difficulty to define a reasonable wage gap between top management and the rest of the labour force, an already high and escalating wage gap would be difficult to motivate in the absence of fair and market-related pay to ordinary employees.

In addition to pay levels, institutional investors also need to pay attention to the components of compensation when they evaluate the compensation policy of an enterprise. This concept refers to how the pay package is structured and includes a variable component, which is made up of short-term bonuses and long-term incentives, as well as the individual's basic salary

(Gerhart & Milkovich, 1990:663). The ultimate goal with components of compensation is to improve the financial performance of enterprises. This objective, however, is often not achieved. In the case of the labour force, this can often be attributed to them not trusting management's motives for introducing profit sharing (Bekker, 1995:22). Management should therefore refrain from a top-down approach where profit sharing is concerned and the labour force should preferably be involved with the planning thereof from the start (Bekker, 1995:23; Dolmat-Connell, 1999:50). In an empirical study of the reaction of the stock market to announcements of 48 firms which created employee share ownership schemes as an employee benefit, Davidson and Worrell found significant positive short run stock market reactions without any significant industry-adjusted improvements in the operating performance of subsequent years (1994:80). Given the results as reported in the literature, which they describe as mixed, they concluded that "sprinkling a little stock around will not necessarily guarantee enhanced firm performance" and that "the broader promises of employee share ownership plans will remain unfulfilled unless it is made part of broader programs to enhance worker involvement in everyday decisions" (Davidson & Worrell, 1994:81). Deep-rooted management-union distrust in South African labour relations therefore has the potential to prevent employee share ownership schemes leading to improved financial performance of enterprises. Success in this regard will depend on management's trust to involve employees in meaningful decision-making and the trade union's belief that they can participate to the benefit of all without sacrificing their independence (Boshoff & Mazibuko, 1995:16).

3.4.5 Development of human resources

The development of human resources is another important aspect which institutional investors have to keep in mind when they formulate an opinion about the existence of sound labour relations at an enterprise. This requires a proper understanding of the concepts involved, as well as why human resources have to be developed. Armed with a sound understanding of the relevance of this aspect, institutional investors need to establish the amount of work which has been done at the enterprise in this regard, as well as whether a sound approach has been followed.

Human resources represent the know-how and skills of individuals working in the organisation (Koch & McGrath, 1996:336), while the development of this resource entails education, training and career counselling (Bendix, 1996:415). Amongst others, the development of human resources therefore requires enterprises to build up and expand the abilities of its employees (Vickery & Wurzburg, 1992:16). This is achieved through *education* that enables employees to acquire new skills without the help of others (Treynor, 1994:6). A typical example here would be basic literacy programmes that are offered to the unsophisticated section of the labour force to reduce their future dependency on outside help to acquire marketable skills. In comparison, *training* has as objective to assist employees who are unable to acquire particular skills without the help of others (Treynor, 1994:6). This might for example be necessary when employees have to make use of new machinery in the production process. These efforts by the enterprise and its employees are complemented by *career counselling,* which is of great value to groom employees for future positions in the enterprise.

The need to develop human resources will become apparent when institutional investors consider the importance of adequately developed human resources for the sustainable performance of the enterprise. According to the human capital theory, education and training are of great importance for the sustainable performance of enterprises, because it enhances the amount of human capital and therefore increases productive potential (Tapsell, 1998:37-41; Vickery & Wurzburg, 1992:16; Zwell & Ressler, 2000:41-45) which, in turn, leads to higher earnings (Barker, 1995:141). Empirical results indicate that enterprises do indeed receive a positive return from investments in human capital that is applicable to the particular firm (Bouillon, Doran & Orazem, 1995/6:40). The case for emphasis on training is particularly relevant in South Africa as a result of the need to develop previously disadvantaged groups for progression through managerial ranks (Fischer & Maritz, 1994:22). Education and training are important avenues for addressing problems such as these, because it increases the number of employees with particular skills (Treynor, 1994:7; Barker, 1995:162). In this regard it is important to keep in mind that employees need to be trained in order to be able to participate effectively in business decision-making (Barber, 1994:464).

Once institutional investors have a good understanding of the need to develop employees at a particular enterprise, they can proceed to determine what efforts have been made to develop

the labour force. In the first place, this relates to the actual investment which the enterprise has made in the development of its employees. For institutional investors this highlights the value of at least some elementary information in financial statements about human capital investments such as training costs (Bouillon, Doran & Orazem, 1995/6:40; Wurzburg, 1998:42-43). In the absence of reliable information about training costs incurred by the enterprise, it would be prudent for institutional investors to assume that not enough has been invested in training, because official studies have found that South African employers on average spend far less on training than is the case overseas (Barker, 1995:148). Institutional investors also have to pay attention to the enterprise's strategy for developing its employees (Koch & McGrath, 1996:340). This will improve institutional investors' ability to predict the future scenario at a particular enterprise and help determine whether the approach followed to develop human resources can be regarded as appropriate. In this regard, it is important that training programmes are geared to the needs of employees as well as those of the enterprise (Bendix, 1996:323). This requires an interactive process between the personnel department, line managers and the other stakeholders to ensure that training and development reflect the real needs at ground level (Fischer & Maritz, 1994:27).

Enterprises are therefore responsible for providing employees with appropriate opportunities to learn, while employees are expected to take responsibility and utilise the opportunities available for self-development (Skoch, 1994:38). Employee participation in training programmes can therefore also be used as an indicator of how committed employees are to their work and the enterprise (especially if the training is company-specific and not generally applicable), because one can expect that in cases where the goals of employees do not correspond with that of their employer, employees would be reluctant to invest in training.

3.4.6 Reasonable working conditions

Reasonable working conditions for the purposes of this study do not refer to legal aspects such as the content of the Basic Conditions of Employment Act of 1997, which has as purpose to advance social justice by establishing and enforcing basic conditions of employment (Basic Conditions of Employment Act of 1997, section 2(a)). Employers should be well informed about minimum requirements such as these and therefore it should not be regarded as a source of uncertainty, but rather be treated as known limitations to the use of

labour. Such aspects should not be regarded as risk, but rather as minimum investments or expenses that are necessary to maintain the productive capacity of the labour force.

The approach here is that reasonable working conditions result from efforts by the enterprise to assist employees in balancing the demands of their working lives with that of their private lives. Failure to balance these demands will increase the labour-related risks. In this regard, institutional investors cannot concentrate only on whether the enterprise meets generally accepted practices. The focus should in the first place be to identify whether circumstances peculiar to the particular enterprise require a special effort by the enterprise to create harmony between the working and private lives of its employees. A lack of harmony will tend to increase labour-related risks, unless the enterprise does more than the ordinary to cater for the special needs of its employees. In cases where there is no such extraordinary conflict between the working and private lives of employees, institutional investors can conclude that adherence by the enterprise to legal requirements is enough to contain labour-related risks.

In what follows, aspects which jeopardise a harmonious relationship between the working and private lives of employees are discussed. Thereafter possible solutions to these conflicting demands receive the necessary attention, whereafter important guidelines are highlighted to enhance the possibility of success with the implementation of these solutions.

In general, all employees are faced with demands at work and at home. Meeting these demands is time-consuming and results in labour-related risks when employees struggle to reconcile the demands of work and the demands of home. This explains why labour-related risks are likely to increase when employees are expected to work too many hours (Froiland, 1993:35). It also implies that the personal circumstances of employees influence their perception of what reasonable working conditions entail (Brenner, 1999:34). Various demographic changes are complicating matters and make it more stressful for employees to balance the demands at home with those at work. These include an increase in dual-income families and single parents in the labour force (Sullivan, 1994/5:394). Aspects such as these are of great importance to institutional investors, because stress at home over problems of scheduling and other difficulties can lead to increases in employee absenteeism, declining commitment to work and other problems which may express themselves as constraints on the financial performance of enterprises (Moore, 1995:661). An enterprise with a large number

of married women in its labour force has to be particularly aware of these potential problems, because the increase in female participation in waged labour has not been matched by a corresponding decrease in their domestic responsibilities (Heath, Ciscel & Sharp, 1998:587-594; Moore, 1995:660). Other authors maintain that this is not only a women's issue, but rather a social issue, because situations in which fathers are closely involved in domestic duties such as childcare occur frequently (Sullivan, 1994/95:393).

Armed with a better idea of aspects which might act as constraints to reasonable working conditions, institutional investors should proceed to determine what is done by the enterprise to limit conflict between the working and private lives of employees (Jurgens, 1995:685-687). These solutions should deal with the causes of stress and not merely focus on stress-related symptoms. But facilities such as stress-management training and having a company gymnasium cannot be regarded as primary solutions to problems caused by employees who are expected to work too many hours. It does, however, indicate that there is adequate recognition of the problem (Froiland, 1993:35). Institutional investors should therefore primarily focus on efforts by the enterprise to help employees meet potential conflicting demands at work and home by helping them to find time to do so. These efforts can be classified as flexible work arrangements (for example flexitime and compressed workweeks), and are low-cost employee benefits that will improve productivity and motivate a changing labour force (Sullivan, 1994/95:393). Programmes such as these, which employees in the United States of America rank just below salary and job security as job characteristics which they most want from their employers, will only succeed if managers support it, otherwise employees will be reluctant to make use of it for fear of limiting career promotion prospects (Romano, 1994:9). Managers should be exposed to training which helps them to recognise the legitimacy of family needs and be provided with explicit guidelines to sort out conflicting work and family objectives (Cramer & Pearce, 1990:43).

As can be seen, success with the implementation of flexible work arrangements is not guaranteed. Institutional investors should therefore also assess to what extent the enterprise adheres to generally agreed principles which improve the possibility of having success with the implementation of flexible work arrangements. The *first* aspect of importance, is to ensure that the enterprise has established a formal policy as a statement of commitment to provide these flexible options (Romano, 1994:9). This will be an important signal by the

enterprise to managers, and will provide the cultural framework for developing a working climate in which both management and employees wish to operate. Enterprises should in the *second* place train managers to implement the work-family policy (Cramer & Pearce, 1990:44). Progress with the implementation of enterprise policy should also be measured, often in the context of managers' performance reviews (Cramer & Pearce, 1990:44). The latter might for example entail that employees rate their bosses on progress made with the implementation of work-family flexible schemes. It is *finally* of importance that management and employees communicate about these issues regularly (Sullivan, 1994/95:400). This is of particular importance given the fast changing business climate. It is further required to ensure that the diverse demands of employees as individuals receive the necessary attention. Institutional investors should regard compliance with the above principles as a priority, because corporate work and family programmes will be the rule, not the exception, in corporate employee relations in the years to come (Cramer & Pearce, 1990:44).

3.4.7 Employment equity

The South African labour market is characterised by a number of inequalities. Black people, women and people with disabilities are especially hard hit by these inequalities, which include occupational segregation, inequalities in pay and lack of access to training and development opportunities (Explanatory memorandum to the Employment Equity Bill of 1997). Inequalities are not unique to the South African labour market, because even in highly developed countries such as the United States of America, individuals and organisations are not uniformly race and gender neutral (Wright, Ferris, Hiller & Kroll, 1995:274). Empirical studies in that country indicate that race and gender tend to influence income, initial employment opportunities, as well as progression in an organisational hierarchy (Wright et al., 1995:274). The fact that employment equity remains elusive even in a first world country does not imply that institutional investors investing in South African equities can ignore this aspect. The detrimental consequences of under-utilisation of human resources due to employment inequalities are even more relevant and important in South Africa, because those who are worst affected by these practices are in the majority locally and not in the minority as in the United States of America. Given the prominence of this aspect in the South African business environment, it is necessary to pay attention to the consequences of inequality in the workplace for institutional investment decision-making, the role of the Employment Equity

Act of 1998 to redress these imbalances, as well as the potential impact of this Act on investment decision-making. In the last place, it is necessary to highlight the official source of information available to institutional investors to assess this aspect of enterprises.

Discriminatory practices add to the imperfections of the labour market (Bendix, 1996:404). In such an environment not all categories of employees participate actively in the labour market with the result that shortages in certain spheres occur which cannot be filled by the employees from another group. The disadvantages of these practices extend further than the burden which it places on the pool of skilled employees from which enterprises can choose, because enterprises with discriminatory practices may have less talented and committed labour forces as well as high operating costs because of high employee turnover, absenteeism and job dissatisfaction (Wright et al., 1995:284). The elimination of discrimination based on ethnic, gender and disability grounds is therefore not only preferred from an ethical point of view, but also because it makes economic sense (Explanatory memorandum to the Employment Equity Bill of 1997). It is imperative that institutional investors do not take cognisance of imbalances in the labour market only, but also pay attention to efforts by the particular enterprise to eradicate imbalances in its labour force. In this regard, the role of the Employment Equity Act cannot be ignored.

The purpose of the Employment Equity Act is to achieve equity in the workplace, through the elimination of unfair discrimination, and to implement affirmative action to redress the disadvantages experienced by black people, women and people with disabilities, in order to ensure their equitable representation in all occupational categories and levels in the labour force (Employment Equity Act of 1998, section 2; Moolla, 1999:4-6). Discrimination in the labour market occurs when non-productivity-related criteria are relied upon in the allocation and utilisation of labour such as in recruitment, remuneration, firing and retrenchment (Restructuring the South African labour market, 1996:137). The Employment Equity Act goes further than to prohibit unfair discrimination; it also requires enterprises to take positive steps to ensure that they do not discriminate. Amongst others, these positive steps (affirmative action) must include measures to retain, train and develop people from designated groups (Employment Equity Act of 1998, sections 15(2)(d)(i) – (ii)).

The comprehensiveness of the Employment Equity Act of 1998, makes it necessary to highlight the main consequences thereof for institutional investment decision-making from a risk point of view. In the first place, it is important to note that discrimination on one or more grounds as listed in the Employment Equity Act is unfair unless it is established that the discrimination is fair (Employment Equity Act of 1998, section 11). The burden of proof (and risk) therefore rests with the enterprise. Institutional investors have to keep in mind that for the purposes of the protection of employee rights, "employee" includes a former employee and an applicant for employment (Employment Equity Act of 1998, section 51(5)). Uncertainty also exists as to whether it is possible to train previously disadvantaged individuals to be globally competitive, given the time constraints that South Africa is faced with for affirmative action implementation which affects the majority of the population (Coldwell, 1994:56). There is a concern that affirmative action could be prejudicial to productivity (Barker, 1999:21; Venter, 1994:35). The relevance of this concern is highlighted by experience which has shown that it takes a long time before the improved training and education of previously disadvantaged persons result in higher productivity (Blum, 1994b:41). The literature also indicates that ethnic differences in skills and labour market outcomes may persist for several generations (Borjas, 1992:149). Borjas (1992:149) does, however, claim that government interventions designed to increase the average skill level of a racial or ethnic group in one generation significantly improves the economic wellbeing of all future generations. Although this provides support for the underlying philosophy of the Employment Equity Act of 1998, doubt exists as to whether institutional investors would be prepared to wait that long for possible advantages to materialise while they have better opportunities to pursue in the meantime. The last and perhaps one of the most important risks for institutional investors that is inherent in the Employment Equity Act of 1998 is the fact that the international experience as far as equal opportunity and affirmative action is concerned, differs substantially from that of South Africa. Nearly all previous experiences in this regard had to do with addressing discrimination against a minority. The situation in South Africa is the reverse. International experience, while valuable, will have limited direct applicability under local conditions (Restructuring the South African labour market, 1996:147).

3.5 Contingent liabilities for the enterprise in respect of the labour force

Institutional investors should look beyond the present employment relationship when assessing labour-related risks, because enterprises might have obligations in respect of employees (former employees included) in a period later than that in which they contribute to performance of the enterprise. The focus here is exclusively on contingent liabilities for the enterprise as a result of the *agreed employment relationship* and not, for example, on possible claims by the labour force for damages suffered as a result of negligence on the part of the enterprise. Contingencies such as the latter are not intrinsic to the labour force, but originate from sources such as the enterprise or particular industry in which the enterprise operates and can therefore not be regarded as a labour-related risk. For the purposes of this study, the main contingent liabilities resulting from the agreed employment relationship refer to post-retirement benefits such as pension funds and medical aid schemes. The principles involved in assessing the labour-related risks flowing from these employee benefits can also be applied to the extent that any other post-retirement benefit represents a contingent liability for the enterprise. With this in mind, institutional investors should determine whether there are other post-retirement benefits that might have a material impact on labour-related risks.

The principle statute dealing with pension and provident funds is the Pension Funds Act of 1956. The Act is not prescriptive on how vital issues are dealt with and merely provides a broad framework of items that must be addressed in the rules of the fund. The key to the control of a pension or provident fund lies in its rules, therefore the party who is able to amend the rules of a fund effectively controls it (Field, 1991:968). Enterprise control of the pension fund's board of trustees combined with pension fund rules which are biased in favour of the employer, therefore mitigate against contingent liabilities which might exist as a result of the type of fund present at the particular enterprise. On the other hand, pension fund rules that are overwhelmingly in favour of the enterprise might eventually result in other labour-related risks, especially if these rules are not the result of negotiations between the enterprise and the labour force. Institutional investors should balance the risk mitigation advantages of pension fund rules favouring the enterprise, with the way these rules have been arrived at.

Retirement benefit plans can be classified as defined contribution plans or defined benefit plans. Under a *defined contribution plan*, the amount of an employee's future retirement

benefits is determined by the contributions paid to the fund by the enterprise and the employee, and the performance of that fund (Dorsey & Turner, 1990:542). The enterprise's obligation is limited to the amount that it agrees to contribute to a fund to provide for the payment of retirement benefits to its employees (The South African Institute of Chartered Accountants, AC 116, paragraph .13). This type of fund has no impact on labour-related risks, because the risk of underperformance of the fund is carried by the employees and not the enterprise. In contrast, *defined benefit plans* entitle employees to an annuity at retirement based on years of tenure and final wage (Ippolito, 1991:521). Under this type of fund, the enterprise is obliged, either by the provisions of a document or by the enterprise's practices, to provide the promised retirement benefits irrespective of the funding arrangements made. When a defined benefit plan is funded, the payment of retirement benefits when they fall due depends on the financial position and the investment performance of the fund, as well as the ability of the enterprise to make good any shortfall in fund assets. When the plan is not funded, the payment of retirement benefits depends on the ability of the enterprise to meet the retirement benefit obligations as they fall due (The South African Institute of Chartered Accountants, AC 116, paragraph .14). It is therefore obvious that the obligation of an enterprise under a defined benefit plan is usually uncertain, because there are many variables that influence the ultimate cost of this type of benefit plan.

Given the potentially significant effect of differences between assumptions and experience, it is necessary to determine the cost of retirement benefits by obtaining actuarial valuations at frequent intervals; at least every three years is appropriate (The South African Institute of Chartered Accountants, AC 116, paragraph .28). As a result of the uncertainties involved, the obligations of the enterprise under defined benefit plans might have a significant impact on labour-related risks. It, however, is not the gross obligation of the enterprise which is of importance in this regard, but rather the enterprise's obligation after deduction of assets which has been transferred to the fund to meet future obligations for the payment of retirement benefits. In this regard, a distinction can be made between funds which are overfunded and those which are underfunded. A fund is overfunded when an actuarial report showing that the fund has surplus assets to those necessary to meet its actuarially calculated liabilities has been issued (The South African Institute of Chartered Accountants, AC 116, paragraph .06). In cases like this, institutional investors can regard the labour-related risk inherent to defined benefit plans as immaterial. In contrast, underfunded status is indicated

when an actuarial report showing that the fund has a deficit in assets, and is therefore unable to meet its actuarially calculated liabilities, has been issued (The South African Institute of Chartered Accountants, AC 116, paragraph .6). This will have a detrimental impact on labour-related risks and might act as a deterrent to financial investments depending on the ability of the enterprise to meet these obligations in future.

The South African Institute of Chartered Accountants is specific about disclosure requirements in financial statements in respect of defined benefit plans. Information about defined benefit plans which must be disclosed in the financial statements of the enterprise include, amongst others, a general description of the plan and whether it is funded, the actuarial present value of promised retirement benefits and, if the plan is funded, the fair value of the plan assets at the date of the most recent actuarial valuation, the principal actuarial assumptions used in the valuation, as well as how often actuarial valuations are made (The South African Institute of Chartered Accountants, AC 116, paragraph .53).

Institutional investors should also evaluate to what extent retired or retrenched employees are entitled to claim medical aid cover from the enterprise. The validity of these claims by former employees will largely depend on the content of policy documents, letters of appointment and negotiated agreements. However, it is impractical to expect from institutional investors to work through these documents and therefore proper disclosure in financial statements is vital to evaluate the obligations of enterprises in respect of medical aid schemes. The South African Institute of Chartered Accountants realises the need for official information about the medical aid obligations of enterprises and therefore requires that minimum information in this regard be disclosed in financial statements. The information to be disclosed in this regard include, amongst others, the accounting and funding policy, a general description of the nature of benefits to which employees are entitled, the actuarial present value of the promised benefits, as well as relevant information about the actuarial valuation (The South African Institute of Chartered Accountants, AC 305, paragraph .17).

To remove any possible remaining uncertainties, enterprises which do not provide for post-retirement benefits should disclose that fact (The South African Institute of Chartered Accountants, AC 305, paragraph .18).

It is therefore obvious that post-retirement benefits such as pension funds and medical aid schemes might be of vital importance when labour-related risks are assessed. The South African Institute of Chartered Accountants recognises the potential impact of contingent liabilities like these on the financial position and future financial performance of enterprises and therefore requires proper disclosure of these aspects in the annual financial statements. Institutional investors can use the information as required by the South African Institute of Chartered Accountants as a guideline to ensure that this important facet of the agreed employment relationship receives the necessary attention when labour-related risks are evaluated.

3.6 The availability of labour

Institutional investors need to take the availability of labour into account when the labour-related risks of an enterprise are considered, because a sufficient supply of labour might be of vital importance for the sustained performance of the enterprise. The assessment will therefore focus on whether the quantity and quality of the future supply of labour will be adequate to meet the demands of the enterprise to operate optimally. As an initial step, institutional investors need to scrutinise the existing situation of the enterprise and determine whether the quantity and quality of the labour force meet its current needs. Thereafter the expected trend in the demand for labour by the enterprise should receive the necessary attention. Institutional investors have to determine to what extent the enterprise can rely on a sufficient external supply of labour. As a last step, possible enterprise interventions to combat expected labour shortages must be evaluated. This process will enable institutional investors to formulate a reliable opinion about the availability of labour as a labour-related risk. Important aspects that have to be considered in this analysis will now be highlighted.

Initially, institutional investors need to pay attention to the *adequacy* of the existing labour force in both *quantitative* and *qualitative* terms to meet the current needs of the enterprise. The analysis should therefore not be limited to the labour force in general, but also has to be performed for the various subgroups within the labour force, such as different skill levels, occupations and age groups. The evaluation can be expanded further to distinguish between labour market conditions in the various geographic regions where the enterprise is active. This approach is required in acknowledgement of the fact that the labour market is in fact

comprised of many different markets (Bendix, 1996:397). The identification of present labour shortages will immediately increase the risk profile of the enterprise, because the existence of labour shortages can be regarded as a reflection of the enterprise's inability in the past to establish the required labour force. This will furthermore put a question mark on the ability of the enterprise to perform this vital function in the future.

The study of the availability of labour is therefore primarily future focused. Consequently, the *expected trend* in the future demand of labour by the enterprise must be determined. To a large extent, this will depend on the enterprise's anticipated future business activities, because the demand for labour is a derived demand, as it is dependent upon the demand for the product it produces or the service it provides to the consumer (Barker, 1995:10). As in the analysis of the current sufficiency of labour, this study must also take into account the various subgroups and geographic distribution of the labour force in order to try and predict possible future labour shortages. Depending on the investment horizon of the institutional investor, a decision will have to be taken regarding the period for which the future availability of labour will be examined. Consequently, the impact of the anticipated future business cycle on the demand for labour by the particular enterprise must also be studied.

In addition, institutional investors have to consider the *elasticity* of the enterprise's *demand* for labour. Elasticity of demand refers to the impact of changes in the cost of labour on the number of employees that the enterprise is willing to employ (Barker, 1995:13). An elastic demand for any or all subclasses of labour implies that the enterprise is willing and able to do with fewer than the existing number of employees should the labour force demand an increase in wages. In such cases the bargaining power of trade unions will be constrained, depending on the degree of elasticity in the demand for labour (Hirsch, 1992:97). The opposite will happen if the enterprise's demand for labour is inelastic, which implies that the enterprise is neither willing nor able to do with fewer than the existing number of employees, irrespective of wage increases. The *elasticity* of the *supply* of labour, which refers to the responsiveness of the supply thereof to changes in wages (Barker, 1995:10), will also have an impact on the availability of labour.

Given the *expected trend* in the future demand for labour by the enterprise, institutional investors should determine whether the enterprise can rely on a sufficient external supply of

labour. This will in the first place be influenced by the size and growth of South Africa's population. The general view is that South Africa has an oversupply of labour in quantitative terms (Chadha, 1995:643; Klasen & Woolard, 1999:4) and a shortage of skilled employees. The abundance of labour in South Africa becomes clear when cognisance is taken of the country's unemployment rate which equaled 22,9 per cent in 1997 according to the official definition of unemployment or 37,6 per cent when the expanded definition is used (Statistics South Africa, 1998:3). The distribution of occupations among the employed between 1994 and 1997 reflects the greater emphasis placed on the skilled component of the labour force in South Africa, as the proportion of people employed in skilled occupations increased from 18,5 per cent to 25,0 per cent over this period, while the proportion of people employed in elementary occupations decreased from 36,4 per cent to 28,3 per cent (Statistics South Africa, 1998:34). Education and training require investments of time and money which explains why higher order skills are more scarce than lower order skills which do not require the same amount of investment. The latter is aggravated by the tendency for skilled employees to emigrate from less developed countries to more developed countries (Rauch, 1991:775; Haque & Kim, 1995:580).

Once institutional investors have analysed the availability of labour from external sources, they should investigate what *actions the enterprise can take* to combat potential shortages of labour. The first of these actions to increase the availability of labour is to *invest in training* (Ireland & Hitt, 1999:50) and to *utilise promotion-from-within* as part of the enterprise's development strategy (Koch & McGrath, 1996:340). To the extent that this approach creates enterprise-specific skills, it also provides some protection against other employers poaching the employees of the enterprise (Hirsch, 1992:97; Koch & McGrath, 1996:340). Enterprises can also provide *support services* to attract skilful employees that would otherwise have been lost to the labour market. An example would be to make the enterprise more attractive to mothers with valuable skills by providing daycare facilities for their children or to provide employees with a *flexible working environment.* Enterprises can also engage in *countercyclical hiring* to prevent labour shortages from occurring. This strategy involves selective hiring during downturns or recessions that occur prior to a clear upturn in economic activity (Greer & Ireland, 1992:956). Unlike procyclical hiring which occurs during periods of strong economic activity, countercyclical hiring involves stockpiling of talent for future needs (Greer & Ireland, 1992:956). Finally, enterprises can consider reducing their reliance

on the labour force by introducing *technology-based solutions,* and making more use of capital intensive production techniques. The popularity of this alternative is illustrated by the South African economy that is becoming more capital intensive at an alarming rate (Barker, 1995:4).

The preceding discussion provides institutional investors with a guideline for assessing the availability of labour as a labour-related risk when financial investment decision-making takes place. It is obvious that the analysis of this labour-related risk has to be extended beyond the existing situation at the enterprise and that the time horizon of the institutional investor will be the determining factor to decide on an appropriate time frame in this regard. It can further be concluded that enterprises do not only have to rely on an external supply of labour to provide for their demands, but that they can become actively involved to ensure that the availability of labour does not put their future prosperity at undue risk. Institutional investors have to consider all these aspects when the availability of labour at an enterprise is evaluated, otherwise promising financial investment opportunities might be missed due to overestimated labour-related risks.

3.7 Enterprise's view of the labour force

Institutional investors should take account of the enterprise's view of the labour force when labour-related risks are assessed for the purpose of financial investment decision-making. The enterprise's view of the labour force will have an impact on the way the labour force is treated and therefore ultimately influence the motivation and commitment of employees, which is relevant for their performance as individuals, as well as for the benefit of the enterprise. With this in mind, it is important to identify those aspects that highlight the enterprise's view of the labour force.

The *mission and strategy* of the enterprise is the first aspect that will provide an indication of the enterprise's view of the labour force. The mission of an organisation describes its central purpose, while strategy explains how the organisation intends to achieve that purpose over an extended period of time (Burke & Litwin, 1992:531). Enterprises whose shares are publicly traded in the United States of America advance foremost the goals of institutional investors that are purely financial and focus on the short-term performance of shares (Porter, 1992:70).

In an environment where the managers of enterprises are motivated to achieve financial targets, intangible investments such as cross-functional training for employees (which may not even be tracked in the financial system) may be sacrificed in the name of profitability (Porter, 1992:72). In South Africa, business' response to economic hardship has traditionally been to reduce the labour force. This response is based on the philosophy that labour, like several other inputs in the production process, is an element of cost which should be curtailed to improve profitability and therefore to achieve a higher return on the investment (Malan, 1990:22). Similarly, a strategy that relies solely or primarily on being the low cost competitor in either a domestic or an international market is not conducive to a peaceful labour-management relationship (Kochan & McKersie, 1990:7). In such cases, prospective institutional investors can reasonably expect that the claims of employees, as stakeholders in the enterprise, are not of prime importance to the enterprise.

Organisational culture is another factor which indicates the value that an enterprise attaches to the labour force. Organisational culture embodies the values and norms that guide people's behaviour (Petrock, 1990:65) and it incorporates, amongst other things, the respect for people as an important dimension (Chatman & Jehn, 1994:525). Institutional investors can expect organisational culture to govern what the enterprise stands for, how it allocates resources, its organisational structure, the systems it uses, the people it hires, the fit between jobs and people, the results it recognises and rewards, what it defines as problems and opportunities, and how it deals with them (Petrock, 1990:66). Ultimately, it is therefore also possible that organisational culture influences organisational performance (Gordon & DiTomaso, 1992:794).

Institutional investors should also consider *leadership* to improve their understanding of the enterprise's view of the labour force. Leadership can be defined as executives providing overall organisational direction and serving as behavioural role models for all employees (Burke & Litwin, 1992:532). The individual biases, experiences and values of leaders play a significant role in the definition of an organisation's strategic direction and the articulation of its mode for dealing with multiple forces in the internal and external environments (Thomas & Simerly, 1994:960). This requires that institutional investors distinguish between cases where top management merely expects employees to execute strategic plans without involving them in the planning process, and cases where optimal use is made of the expertise

of employees. The latter approach is of great importance, because optimal use of the intellectual capital of employees contributes to the sustained performance of enterprises (Belasco & Stayer, 1994:31).

Institutional investors should also determine whether the enterprise is delivering on the *values* it says it stands for (Davenport, 2000:2). The mission statement of the enterprise might for example refer to employees as the enterprise's greatest asset, but, in reality, a great number of employees might just have been dismissed following a strike by the trade union. This is referred to as the values gap that can be regarded as the single largest source of cynicism and scepticism in the workplace today (Pearson, 1992:67).

Institutional investors' understanding of the enterprise's view of the labour force can be further improved if their study is expanded beyond leadership to also cover *management practices*. This refers to what managers do in the normal course of events to use the human and material resources at their disposal in carrying out the enterprise's strategy (Burke & Litwin, 1992:532). It therefore boils down to a particular management style that is predominant in the enterprise. Management style can be classified along two dimensions, namely individualism and collectivism, and three degrees of expression are identified for each, namely low, medium or high (Douwes Dekker, 1990:25). *Individualism* refers to the extent to which the enterprise gives recognition in its style to the feelings and sentiment of each employee and seeks to develop and encourage each employee's capacity and role at work (Douwes Dekker, 1990:25). The three degrees of expression which exist in this regard includes a situation where employees are merely regarded as commodities and the enterprise relies on the external labour market for its labour supply, or where certain humanitarian and welfare aspects receive attention, but neither development nor career progression of employees is considered, or, in the third place, where the potential created by developing an internal labour market is optimally utilised (Douwes Dekker, 1990:25). In the case of *collectivism*, the issue is the extent to which the enterprise recognises the rights of employees to have a say in the aspects of management decisions which concern them (Douwes Dekker, 1990:25). Again, three degrees of expression are possible, depending on the extent of participation in decision-making by employees.

The three degrees of expression for each of the two dimensions of management styles can be placed on a grid to distinguish between nine possible management styles. This approach can be of great value in helping institutional investors to identify the typical management style that is present at the enterprise. In this regard, it is interesting to note that Douwes Dekker concludes that the greater majority of South African companies should have as a target to at least achieve a medium degree of individualism and a high degree of collectivism (1990:30). This approach is preferred from a moral point of view, which stresses that employees are not mere extensions of capital and should therefore not be treated as just another commodity (Naughton & Laczniak, 1993:992).

The *organisational structure of an enterprise* is another factor that reflects information about the enterprise's view of the labour force, since it embodies the arrangement of functions and people into specific areas and levels of responsibility, decision-making authority, communication and relationships to assure effective implementation of the enterprise's mission and strategy (Burke & Litwin, 1992:532). A flat organisational structure will in all probability indicate that the enterprise has a lot of faith in its employees to engage in decision-making, while a hierarchical organisational structure creates an impression of centralised decision-making powers with supervisors who closely monitor ordinary employees to ensure that management decisions are properly executed.

In the last place, institutional investors should pay attention to *systems* that are in place in the enterprise. Systems are standardised policies and mechanisms that facilitate work, primarily manifested in the organisation's reward systems, management information systems, and in such control systems as performance appraisal, goal and budget development, and human resource allocation (Burke & Litwin, 1992:532). The information required to formulate an opinion in this regard will, to a large extent, be available from the results of the investigation into the existence of sound labour relations practices in the enterprise.

Consideration of the aspects mentioned in the previous paragraphs will enrich institutional investors' opinion about the enterprise's view of the labour force. This is of great importance for the study of labour-related risks, because the enterprise's view of the labour force will not only have an impact on how the enterprise treats the labour force, but also on how the labour force experiences the enterprise.

3.8 Labour force's view of the enterprise

The labour force's view of the enterprise will be a reflection of how they experience the enterprise. This has to take account of the views of individual employees as well as that of groups of employees in the enterprise. This highlights the role of employee opinion surveys, which should provide valuable information in this regard (Maitland & Hofmeyr, 1994:17). The results of such surveys should be released to institutional investors to enhance the quality of financial investment decision-making. This will enable institutional investors to compare the labour force's view of the enterprise with the enterprise's view of the labour force, with the objective of determining whether the labour force and the enterprise agree on key issues. The conflict potential in the enterprise is bound to escalate if major disagreements between the enterprise and the labour force are left unattended. The aspects that reflect the labour force's view of the enterprise, are discussed with this in mind.

The *morale* of the labour force is the first and most basic aspect that indicates how employees view the enterprise. This explains how employees personally experience the enterprise and indicates whether they are satisfied with their jobs (Wilkerson & Kellogg, 1992/93:414). Because of the limited relationship between job satisfaction and work output, institutional investors should not make conclusions about the labour force's view of the enterprise based on this aspect only.

Information about the *attitude* of employees will further improve institutional investors' understanding of how the labour force view the enterprise. Attitude surveys are valuable instruments for obtaining this type of information and will provide an indication of employees' perception of their work environment, and of frustration levels (Wilkerson & Kellogg, 1992/93:414).

The quality of decision-making will be further improved if institutional investors do not cover the morale and attitude of employees only, but also consider the *labour climate* within the enterprise, which refers to the perceptions of employees regarding the atmosphere that is created in organisations by practices, procedures, and rewards (Schneider, Gunnarson & Niles-Jolly, 1994:18). In this regard, it is important to note that such perceptions are not based on what the enterprise proclaims, but rather on the behaviour of executives. This

stresses the importance for enterprises to practice what they preach, otherwise employees will lose all trust that they might have in management. An example of such "double speak" occurs where management is on record saying that the labour force is an important asset of the enterprise, while the labour force, in reality, is treated as a cost to the enterprise (Schuitema, 1993:14). *Trust* is of vital importance for the continued prosperity of enterprises, because the absence thereof adversely affects relationships and prevents employees from focusing on the work that they should be doing (Sonnenberg, 1994:53). The possibility of lack of trust is real, given the steady rise in public mistrust of institutions in the world's leading capitalist country, the United States of America, over the past three decades (Berry, 1996:4).

Institutional investors' understanding of the labour force's view of the enterprise will also be improved if they consider the *culture* of employees. Culture entails the shared set of morally binding customs, values and beliefs of a group (Gitlow, 1992:479; Buhler, 1993:17; Schneider et al., 1994:18). Culture does not exist in a vacuum and is strongly influenced by the actions of management (Schneider et al., 1994:18).

It is also important that institutional investors compare the labour force's culture with that of the enterprise's leaders and management to determine whether there is a cultural clash. In cases where there is a vast difference between the values of employees and those of managers, the risk exists that employees make decisions that are not in the best interest of the enterprise, and might even be harmful (Gandz, 1990:76). Poor employee-enterprise fit has also been shown to result in greater likelihood of employee turnover intentions and a lack of commitment (Sims & Kroeck, 1994:946). Cultural issues therefore have the potential to impact on enterprise performance (Gordon & DiTomaso, 1992:783). Institutional investors should be careful not to come to conclusions about cultural issues by only focusing on the results of historic cultural assessment surveys. Culture is a dynamic concept, because values are subject to change due to changes in the business environment, as well as changes in the demographic profile of employees (Grey & Gelfond, 1990:303). This aspect is of particular importance in South Africa, where there is a drive to rectify historic imbalances in the labour force.

The preceding paragraphs have highlighted a number of indicators that should enable institutional investors to improve their understanding of the labour force's view of the enterprise. These indicators include the morale and attitude of employees, the organisational climate within the enterprise, as well as cultural aspects. Given the relevance of these aspects for the assessment of labour-related risks, institutional investors should demand the disclosure of this type of information to improve the quality of financial investment decision-making.

4. SUMMARY AS AIDE-MEMOIRE TO INVESTMENT PRACTITIONERS

The various aspects that have been highlighted in this chapter should be considered when institutional investors embark on a *detailed study* of labour-related risks for the purpose of financial investment decision-making. The detailed study should not be regarded as replacing the preliminary study, but rather as a *complement* with better informed decision-making in mind. Institutional investors should therefore not discard the insights obtained through the preliminary study, but rather incorporate them with the information obtained in the detailed study when labour-related risks are assessed. The aspects that should receive the attention of institutional investors during the detailed study of labour-related risks, are set out in the summary that follows.

The detailed study requires, as a first step, that the **external environment** be scanned to identify and assess those factors that are relevant to labour-related risks. It is important to note that the external environmental factors co-exist and influence each other.

The **political environment** is the first external environmental factor which is relevant for the purposes of labour risk assessment. Institutional investors must therefore determine to what extent *political stability* exists, because stability means predictability and less uncertainty about possible future developments. Thereafter the impact that parties with *political power* have on the labour scene should be taken into account. The investor-friendliness of government's *labour market policy* is the final aspect of the political environment that should receive attention. This aspect should not be assessed in isolation, but relative to the labour market policies of the rest of the world.

The **economic environment** is the second environmental factor that impacts on labour-related risks. The *business cycle* is the first factor to consider in this regard, because the priorities of employers and employees differ during different phases of the business cycle. The *level and trend in unemployment* is another aspect that must be taken into account. *Inflation and the maintenance of wealth in real terms* also is an economic phenomenon that is relevant to the relationship between employers and employees. In addition to local economic factors, the impact of the *global economic environment* on South African labour-related risks should not be underestimated.

The external environment also includes the **social environment.** The social environment has an impact on the *beliefs, values, attitudes and opinions* which employees bring to the workplace. This has the potential to create tension, especially if the social backgrounds of the parties to the labour relationship have little in common. Institutional investors should therefore focus on the impact which *cultural aspects and demographic characteristics,* as well as the *distribution of skills and education amongst various social groups* might have on the employment relationship.

The **technological environment** is the last external environmental factor which institutional investors have to consider when assessing labour-related risks for the purposes of financial investment decision-making. It is important that institutional investors determine the potential *impact of technological change on employment* at the enterprise. Technological change is making its presence felt in enterprises through its impact on *production processes* as well as to the extent that it contributes to the *obsolescence of skills.* Although it is unlikely that employees will be able to stop new technology from being implemented, the *extent and manner of co-operation* between management and labour when they deal with technological change has the potential to limit its inherent conflict potential.

In addition to external environmental factors, institutional investors should also study **company-specific factors** relevant to labour-related risks. These factors will be summarised briefly with reference to the aspects that should be considered in respect of each of them when their relevance for labour-related risks are assessed. Please note that, although these company-specific factors are separately summarised hereunder, they co-exist in practice and

influence and are influenced by the external environmental factors that are relevant for labour-related risks.

The **track record of labour relations** at the enterprise is the first company-specific factor that has to be considered in order to have a better grasp of labour-related risks at the enterprise. *Labour disputes*, or more specifically, the causes of industrial conflict and the typical behaviour used to solve conflict, is the first aspect which will improve institutional investors' understanding of the track record of labour relations. The extent and nature of *employee turnover and absenteeism* are further aspects that will be of value in explaining such a track record. The *timing of labour unrest* in the past and the *historic trend of creating value in the business* are the last two aspects which will help institutional investors in their understanding of the track record of labour relations at the enterprise. With regard to the historic trend of value creation in the past, institutional investors should not only focus on the extent of value created in the past, but also on whether the distribution thereof had been budgeted for and agreed upon by the various stakeholders to achieve the long-term goals of the enterprise.

The **legal framework** in which labour relations are practised is a further company-specific factor that impacts on labour-related risks. In this regard, institutional investors should, in the first place, pay attention to the extent that the Labour Relations Act gives protection to the *right of employees to strike.* It is also important to investigate to what extent the legal framework limits the *flexibility of labour.* The latter refers to limitations that are placed on the ability of employers to alter the size of their workforces. This includes restrictions on employers' right to hire, as well as on their right to dismiss employees. The establishment of *workplace forums* in terms of the Labour Relations Act is the final aspect of the legal framework which institutional investors have to consider when assessing labour-related risks. The creation of workplace forums *in addition to* the traditional collective bargaining structure to deal with issues that are interrelated, has the potential to create confusion and rivalry amongst employees, which is conducive to conflict. It further places an obligation on employers to consult with the workplace forum on a variety of issues concerning production and human resources, which has the potential to delay decision-making. Disputes might also arise from the obligation placed on employers to disclose all relevant information that will allow the workplace forum to engage effectively in consultation and joint decision-making.

Institutional investors should also focus on the **existence of behavioural agreements.** Behavioural agreements enable employers and employees to limit the labour-related risks which are inherent in the Labour Relations Act, and explain much about the culture of labour relations at an enterprise.

The existence of sound **labour relations practices** is another company-specific factor relevant to labour-related risks. Institutional investors should therefore assess the labour relations practices of the enterprise to determine their impact on labour-related risks. The *recruitment and interviewing practices* at the enterprise is the first aspect to consider under this heading, because it is the responsibility of the enterprise to find the right person for the right job. Institutional investors should therefore at least determine to what extent prospective employees are subjected to recruitment and selection tests. It is also important that enterprises communicate their performance expectations clearly to prospective employees, otherwise prospective employees might have unrealistic expectations and not be able to judge whether they would fit into the enterprise.

It is also important to evaluate the *participation of the employees in decision-making*, because it can help to overcome conflict between the enterprise and the employees. It can also bring about greater commitment and involvement on the part of the employees and thereby, greater motivation and higher productivity.

The *sharing of information between the employer and employees* is vital to achieve mutual understanding between all the individuals working for the enterprise. Communication helps to limit labour-related risks, because it reduces misunderstandings. Institutional investors should therefore obtain evidence of labour's satisfaction with communication and have a proper understanding of the factors which have an impact on mutual understanding in the enterprise. Organisational culture is the first factor that has an impact on mutual understanding in the enterprise. The diversity of the labour force, which refers to aspects such as the presence of various cultural groups, racial diversity, language diversity and educational differences, is another factor which has the potential to impact on mutual understanding in the enterprise. Mutual understanding is also influenced by aspects such as the style of communication in the enterprise, and the involvement of trade unions that have the potential to influence the sharing of information within the enterprise. Management has

an important role to play in limiting these risks by, for example, increasing the opportunities for communication and the training of employees to enhance their ability for better mutual understanding.

The *financial empowerment of the employees* is another aspect that has to be considered when the existence of sound labour relations practices are investigated. The interests of shareholders and the labour force do not necessarily coincide as far as the distribution of company resources is concerned, because shareholders generally want to maximise wealth, whereas employees hold claims with pay-offs, irrespective of the enterprise's performance. Institutional investors should be aware of these conflicting interests and determine to what extent the enterprise's compensation policy and practices have an impact on labour-related risks. With this in mind, institutional investors should in the first place determine whether pay differentiation is applied fairly in the enterprise. Differences in pay based on different levels of income uncertainty, skills, education, experience and individual performances are generally regarded as fair. In contrast, pay differentiation based on race and/or gender only cannot be regarded as a sound labour practice, because there are no grounds for discrimination between employees making similar contributions to the success of the enterprise. The wage gap between top management and the rest of the labour force should also be considered when the compensation practices of an enterprise are evaluated. Notwithstanding the difficulty in defining a reasonable wage gap between top management and the rest of the labour force, an already high and escalating wage gap would be difficult to motivate in the absence of fair and market-related pay to ordinary employees. The components of compensation is the final aspect of the financial empowerment of employees which requires the attention of institutional investors. Components of compensation refer to the way in which the remuneration package is structured, and whether it includes a variable component as well as the employee's basic salary. The ultimate goal with components of compensation is to improve the financial performance of enterprises. Success in this regard depends on whether management and the labour force trust each other when variable pay is introduced. It further requires that management abstain from a top-down approach where profit sharing is concerned, and that the labour force should preferably be involved from the planning stage thereof.

The *development of human resources* is another important aspect which institutional investors should keep in mind when they formulate an opinion about the existence of sound labour relations practices at an enterprise. The need for the development of human resources will become apparent when institutional investors consider the importance of adequately trained human resources for the sustainable performance of the enterprise. Once institutional investors have a good understanding of the need to develop employees at a particular enterprise, they can proceed to determine what efforts have been made to develop the labour force. The adequacy of the actual investment in the development of its employees by an enterprise is the first aspect to consider in this regard. In the second place, institutional investors should determine whether the enterprise has a formal human resources development strategy to guide future efforts in this regard. It is also important to evaluate the relevance of the development programme. This requires an interactive process between the personnel department, line managers and the other stakeholders to ensure that training and development reflect the real needs at ground level.

Institutional investors should also determine whether the enterprise is characterised by *reasonable working conditions*. The latter refers to an environment where employees are able to balance the demands of their working life with that of their private life. Institutional investors therefore have to determine whether there are aspects that jeopardise a harmonious relationship between the working and private lives of employees. Aspects which need to be considered in this regard include the working hours of employees, their personal circumstances, the demographic characteristics of the labour force (for example the presence of women in the labour force), as well as the domestic responsibilities of employees. Once institutional investors have a better idea of aspects which might act as constraints to reasonable working conditions, they should proceed to determine what is done by the enterprise to limit conflict between the working and private lives of employees. Flexible work arrangements such as flexitime and compressed workweeks are valuable tools in combating aspects that cause conflict between the working and private lives of employees. Success with the implementation of flexible working arrangements is not guaranteed and depends on the enterprise having a formal policy as a statement of commitment to provide these flexible solutions, a proper training programme to equip managers to implement the policy which deals with work versus family interests, regular measurement of progress made

with the implementation of this policy, as well as regular communication between management and employees in this regard.

Employment equity is the last aspect that can be used as an indicator of the existence of sound labour relations practices. Employment inequalities such as occupational segregation, inequalities in pay and lack of access to training and development opportunities based on ethnic, gender and disability grounds, are associated with a number of disadvantages. These disadvantages include the underutilisation of human resources, a lack of commitment among employees and high operating costs because of high employee turnover, absenteeism and job dissatisfaction. The detrimental consequences of underutilisation of human resources due to employment inequalities are particularly relevant and important in South Africa, because those who are worst affected by these practices locally are in the majority and not in the minority. The stated purpose of the Employment Equity Act is to achieve equity in the workplace through the elimination of unfair discrimination and to implement affirmative action measures to redress the disadvantages in employment experienced by black people, women and people with disabilities, in order to ensure their equitable representation in all occupational categories and levels in the workforce. The Employment Equity Act has a mixed impact on labour-related risks. On the one hand, it has the potential to reduce labour-related risks that result from discriminatory work practices. On the other hand, it tends to increase other labour-related risks. The first of these risks results from the fact that discrimination on one or more grounds as listed in the Employment Equity Act is regarded as unfair, unless the enterprise can prove that the discrimination is fair. The burden of proof on enterprises in this regard extends beyond existing employees, because it might even be necessary to defend an appointment when an unsuccessful applicant claims that there has been unfair discrimination against him or her. There is also concern that affirmative action could be prejudicial to productivity, given the fact that it affects the majority of the population, and the uncertainty which exists as to whether it is possible to properly train previously disadvantaged individuals to be globally competitive within a relatively short period of time. For institutional investors, the last and perhaps one of the most important risks inherent in the Employment Equity Act resulsts from the fact that international experience, as far as equal opportunity and affirmative action are concerned, may differ from that of South Africa, where previously disadvantaged persons represent the majority of the workforce.

The **contingent liabilities for the enterprise in respect of the labour force** is another important company-specific factor which institutional investors have to consider while doing a detailed study of labour-related risks for the purpose of financial decision-making. Post-retirement benefits resulting from the agreed employment relationship such as pension funds and medical aid schemes are contingent liabilities for the enterprise that might have a significant impact on labour-related risks. When assessing the impact of post-retirement benefits on labour-related risks, institutional investors should take cognisance of those aspects that influence the size of the contingent liability for the enterprise.

In the first place, the size of the contingent liability in respect of pension funds is determined by the *type of fund*. A distinction can be made between defined contribution plans and defined benefit plans. For a defined contribution plan, there is no contingent liability for enterprises. Defined benefit plans result in a contingent liability, because the enterprise is obliged to provide the promised retirement benefits, irrespective of the funding arrangements made. The *funding policy* has an impact on the size of the contingent liability inherent in a defined benefit plan. When a plan is funded, the payment of retirement benefits as they fall due depends on the financial position and the investment performance of the fund, as well as the ability of the enterprise to make good any shortfall in the fund's assets. When a plan is not funded, the payment of retirement benefits depends on the ability of the enterprise to meet the retirement benefit obligations as they fall due. It is therefore not the gross obligation of the enterprise which is of importance in this regard, but rather the enterprise's obligation after deduction of the current actuarial value of assets which have been transferred to the fund to meet future obligations for the payment of retirement benefits. The *pension fund rules* are another important aspect that has an impact on the size of the contingent liability in this regard. A distinction can be made between pension fund rules which are biased in favour of the enterprise (this reduces the size of the contingent liability) and those which are in favour of the employees (which tend to increase the size of the contingent liability). Pension fund rules which are overwhelmingly in favour of the enterprise might result in other labour-related risks. It is therefore important that institutional investors also pay attention to the way these rules have evolved. Given the importance of pension fund rules in determining the size of the contingent liability, it is important to establish who has *control of the pension fund's board of trustees*. Enterprise control of the pension fund's board of trustees combined with pension fund rules which are biased in favour of the employer therefore mitigate against

contingent liabilities which might exist as a result of the type of fund present at the particular enterprise.

When assessing the contingent liability resulting from the provision of a medical aid scheme, the same basic approach as in the case of pension funds should be followed. The content of *medical aid policy documents, letters of appointment of employees* and *negotiated agreements* between the enterprise and the labour force will be of prime importance. In addition, the *funding policy* will also have an impact on the size of the contingent liability in this regard.

The detailed study of labour-related risks for the purpose of financial decision-making also includes an assessment of the **availability of labour** given the labour resources needs of the enterprise. This requires that institutional investors estimate to what extent sufficient labour resources will be available to the enterprise in the future to prevent labour shortages. Labour shortages will put the sustained performance of the enterprise at risk. The risk of such shortages occurring at the enterprise depends on the demand and supply of labour. As a first step, institutional investors should pay attention to the *adequacy of the existing labour force in both quantitative and qualitative terms* in meeting the current needs of the enterprise. Any current labour shortages will immediately place the enterprise in a higher risk category. The next step for institutional investors should be to determine to what extent the expected future supply of labour from external sources will be adequate to meet the enterprise's demand for labour. The *external supply of labour* will depend on the size and growth of the population, immigration and emigration, investments in skills development, the elasticity of the supply of labour, as well as the impact of the business cycle. The *future demand for labour* at the enterprise will to a large extent be determined by the level of its future business activities, the existence of various subgroups such as different skills levels, the geographical distribution of its labour force, the business cycle and the elasticity of the enterprise's demand for labour. A comparison of the enterprise's demand for labour with the expected future supply of labour from external sources will enable institutional investors to assess the *likelihood of future labour shortages at the enterprise due to an insufficient external labour supply.* Should the analysis point to a significant risk of an insufficient external labour supply in future, it is of particular importance that institutional investors pay attention to actions taken by the enterprise to combat these expected labour shortages. *Enterprise interventions to reduce the*

risk of an insufficient external labour supply include the *training* of employees, *promotion-from-within* as a development strategy, the *creation of enterprise-specific skills* to limit poaching of employees by competitors, the provision of *support services to attract skilful employees* which would otherwise have been lost to the labour market, the creation of a *flexible working environment, countercyclical hiring,* and the utilisation of *technology-based solutions.*

The **enterprise's view of the labour force** is the penultimate company-specific factor which institutional investors should consider when they conduct a detailed study of labour-related risks. The enterprise's view of the labour force will to a large extent determine whether the labour force is regarded as an asset that should be nurtured or merely a cost that should preferably be limited. The enterprise's treatment of the labour force will influence how the labour force experience the enterprise, which in turn will affect their motivation and commitment. Given the relevance of the enterprise's view of the labour force for labour-related risks, it is important for institutional investors to give attention to those aspects which reflect this view. These include the *mission and strategy of the enterprise*, the *organisational culture, leadership's approach to the labour force, management practices* (which refer to what managers do in the normal course of events to use human and material resources at their disposal to carry out the enterprise's strategy), the *organisational structure,* as well as the *systems* in place at the enterprise which refer to standardised policies (such as the organisation's reward system) that facilitate work.

The labour force's view of the enterprise is the last company-specific factor that has to be covered in the detailed study of labour-related risks for the purpose of financial investment decision-making. The labour force's view of the enterprise is a reflection of how the employees experience the enterprise. The way in which the labour force experience the enterprise has the potential to influence their motivation and commitment. A number of aspects exist which can be regarded as a reflection of the labour force's view of the enterprise. These aspects, which are usually covered by employee opinion surveys, include the *morale* of the labour force, the *attitude* of the employees, the *labour climate* within the enterprise and the *culture* of the employees. In the last instance, the labour force's view of the enterprise should be compared to the enterprise's view of the labour force to identify

possible differences of opinion. The risk potential associated with the labour force will tend to increase if the enterprise and the labour force differ on these key issues.

Originating from the preceding summary, the following are suggested as typical questions for assessing labour-related risks in enterprises for the purpose of financial investment decision-making:

1) Is the enterprise characterised by an unfavourable external environment with adverse labour relations implications?
2) Is the labour force important for the operations of the enterprise?
3) Does the legal framework create a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise?
4) Do the structure and systems of the enterprise create and sustain an unfavourable environment?
5) Is the enterprise characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices?
6) Do the values and goals of leadership or management differ from that of the rest of the labour force?
7) Are labour shortages in quantitative and/or qualitative terms likely to occur due to an insufficient internal or external supply of labour?

CHAPTER 4

EMPIRICAL STUDY OF THE IMPACT OF LABOUR-RELATED RISKS ON FINANCIAL INVESTMENT DECISION-MAKING REGARDING LONG-TERM INSURANCE ASSETS

1. INTRODUCTION

One of the tasks of this study, as mentioned in Chapter 1, is to gather information about the impact of labour-related risks on financial investment decision-making by means of personal interviews with investment practitioners responsible for the investment of long-term insurance assets. The findings and conclusions resulting from the empirical study are reported in this chapter.

A number of aspects regarding the impact of labour-related risks on financial investment decision-making as far as long-term insurance assets are concerned, are covered by the empirical study. In addition to general information about this topic, attention is given to the decision-making process applicable in this regard. Presented after this is a report on the practice that prevails amongst investment practitioners of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by intuitive evaluation of certain key labour-related risks. This report is followed by information relating to aspects which are considered when a detailed study of labour-related risks is done for the purpose of financial investment decision-making. The ranking of labour-related aspects by respondents in order of significance when the degree of labour-related risk at enterprises is determined, subsequently receives the necessary attention. Lastly, the relative importance of labour-related risks for the purpose of financial investment decision-making is investigated. The value of the study is enhanced by the disclosure of significant correlation amongst the aspects covered in the empirical study.

2. SCOPE OF THE EMPIRICAL STUDY

This study is restricted to the empirical evaluation of the way in which labour-related risks impact on financial investment decision-making regarding long-term insurance assets. This decision was taken after joint consideration of the degree of homogeneity flowing from the

fact that long-term insurance assets can be distinguished from the other types of institutional assets, the substantial size of long-term insurance assets and, lastly, because a detailed empirical study of this topic by means of personal interviews is feasible because of the number of long-term insurers registered in South Africa.

Institutional assets include long-term insurance assets, retirement assets, the assets of friendly societies as envisaged in the Friendly Societies Act 25 of 1956 (as amended), unit trust and short-term insurance assets. The term "institutional assets" is not homogeneous in nature. It was therefore decided to limit the study to a particular subgroup within the pool of institutional assets. Although this approach does not imply that perfect homogeneity exists within each of the subgroups, it can claim a larger degree of homogeneity than would have been the case if the empirical study focused on institutional assets in general.

With total assets of R483 463 million as at 31 December 1997, long-term insurance funds represent a significant portion of institutional assets (Financial Services Board, 1998:9). This becomes apparent when the former figure is compared with the total assets of retirement funds and friendly societies which, on 31 December 1996, respectively amounted to R481 370 million and R366 million, while the unit trust industry (other than property unit trusts) had assets of R61 600 million under management and the short-term insurance industry had total assets of R28 110 million at the end of 1997 (Financial Services Board, 1998:13, 15 & 22). Although the quoted figures are not strictly comparable, the size of long-term insurance assets can also be appreciated if the rand amount of shares included in the above-mentioned total assets (namely R276 772 million) is compared with the market capitalisation of all securities listed on the JSE Securities Exchange South Africa, which on 31 March 1998 amounted to R1 389 900 million (Financial Services Board, 1998:9 & 18). The decision to focus on long-term insurance assets therefore covers approximately 20 per cent of the securities listed on the JSE Securities Exchange South Africa.

The relatively small number of registered long-term insurers was another factor that had a significant impact on the decision to limit the study to the long-term insurance industry. On 31 March 1998, a total number of 56 long-term insurers were registered in terms of the Insurance Act, 1943 (Financial Services Board, 1998:8). On 3 November 1998, this number had increased to 58 long-term insurers (Van der Lith, facsimile, 1998). The latter included six reinsurers that were excluded from the study to keep the pool of funds under investigation

as homogeneous as possible. Eventually, the study included 52 long-term insurers, which made it possible to determine who is responsible for financial investment decision-making on behalf of each long-term insurer and to convince them of the value they could add by volunteering to discuss the impact of labour-related risks on financial investment decision-making through personal interviews. In contrast, the Financial Services Board, on 31 December 1997, was responsible for the supervision of 14 076 registered retirement funds (which excluded the State funds, Transnet, Telkom and Industrial funds) and 213 registered friendly societies, while the number of unit trusts and short-term insurers under their supervision on 31 March 1998 respectively amounted to 167 and 77 (Financial Services Board, 1998:12, 15 & 22). Co-operation to study the impact of labour-related risks on financial investment decision-making as far as the other types of institutional assets were concerned would therefore have been more difficult to achieve when compared with the decision to focus on long-term insurers only.

3. METHOD OF THE INVESTIGATION

3.1 General

The survey was conducted by means of personal interviews with officials who were empowered to disclose how labour-related risks impacted on financial investment decision-making as far as the participating long-term insurers' assets were concerned. The discussions were structured by using a written guideline that required each participant to respond to questions about the impact of labour-related risks on financial investment decision-making. Where possible, multiple choice questions were used in the guideline to ensure that the time allowed for interviews was utilised optimally. Personal interviews were preferred to a survey, which would have had to rely on long-term insurers independently completing questionnaires. Personal interviews also provided opportunities to avoid the occurrence of misunderstandings.

Letters of invitation in both Afrikaans and English were sent out. Copies of these are attached in Annexure A. The invitations were directed to the managing directors of the long-term insurers under the letterhead of the Department of Business Management at the University of Stellenbosch. The guideline used in the subsequent discussions did not accompany the invitation letters. This approach was deemed appropriate, because the risk

existed that the content of the guideline for discussion could be misinterpreted and the detailed information required could discourage a number of long-term insurers from participating in the study. It was also argued that disclosure of the guideline at the time of the interviews would be conducive to obtaining the honest opinions of the participants, because of the time constraints involved.

The study aimed to cover the population of 52 long-term insurers. This did not necessarily imply that 52 personal interviews had to be conducted, because cases could occur of two or more long-term insurers outsourcing their financial investment function to the same investment manager.

3.2 Identification of the sample

The Financial Services Board was approached as the initial step in the process to identify the sample. The particulars of the 52 registered long-term insurers on 3 November 1998 as disclosed by the Financial Services Board official (Van der Lith, facsimile, 3 November 1998) formed the basis in terms of which it could be determined who would perform the financial investment decision-making on behalf of the long-term insurers. The information as disclosed by the Financial Services Board included the postal address of each insurer, their telephone and facsimile numbers and the names of their public officers. It was decided to request the co-operation formally by addressing letters of invitation to the managing directors of the long-term insurers. The full names of the managing directors were obtained telephonically from the public officers of the long-term insurers. The decision to address the invitations to the managing directors was taken in the belief that their seniority and influence in the respective organisations would improve the response rate and ensure that the request for co-operation received attention on the highest level possible. The invitations requested each of the managing directors to provide particulars of the functionary who might be contacted to arrange an appointment for the discussion of the impact of labour-related risks on financial investment decision-making. Managing directors who did not respond to the written request, were telephoned to obtain the required information about their respective organisations.

3.3 Drafting of the discussion guideline

The discussion guideline (copy attached in Annexure B) was drafted with reference to the literature study as presented in Chapters 2 and 3. A significant portion of the discussion guideline entailed statements with the possible response continuum linked to a Likert-style five-point scale. An effort was made to include as many as possible of the labour-related risk factors identified during the literature study. In addition, provision was made to obtain general information, during the personal interviews, that could be used to classify the participating institutions and the people with whom the interviews were conducted, into subgroups. The general information included biographical information about the people who were interviewed, information about the type of organisation they worked for and basic financial information about the long-term insurers whose financial assets they managed. It was also regarded appropriate to obtain information about the financial investment decision-making process in use at the participating institutions. Information was also obtained about the importance of various labour-related risk factors. The discussion guideline also required the participants to rank certain aspects in order of their significance when the degree of labour-related risk at enterprises was determined. Finally, questions were asked to determine the relative importance of labour-related risks when financial investment decisions were taken.

It is important to note that the discussion guideline made a distinction between knowledge and manual (or the so-called "blue collar") workers. The difference between these two types of workers lies in the fact that the knowledge worker applies ideas, concepts and information to productive work, whereas the manual worker applies manual skills to productive work (Drucker, 1982:247). As a result of the definite distinction which can be made between these two types of workers, it was considered prudent not to focus only on labour-related risks in general, but to determine whether and to what extent long-term insurers attach different labour-related risks to knowledge and manual workers when financial investment decisions are taken. The relevance of this distinction is highlighted by the growing reliance on knowledge in the world economy, while educated people in underdeveloped countries, at the same time, tend to find work in the advanced industrial nations (Drucker, 1982:247-249). The latter phenomenon is generally referred to as the "brain drain" which is in stark contrast to the surplus of manual workers in some countries.

3.4 Testing of the discussion guideline

The discussion guideline was tested at a listed stockbroking company who also provide an investment management service to its clients, as well as at a private investment management company that focuses mainly on institutional clients. The results of the discussions at these two institutions were therefore exclusively used to test the discussion guideline and are not included as part of the results of the survey.

As a result of the preliminary discussions, minor adjustments were made to the terminology used in the discussion guideline to prevent interpretation problems from occurring when the survey interviews were conducted. The spokesmen at both institutions commented that the discussion guideline was very detailed and that there therefore was a risk that long-term insurers might not be prepared to participate in the survey. They also mentioned that the risk of a low response rate could be overcome if the scope and objectives of the survey, as well as the potential benefits to the long-term insurers, were well-communicated.

Based on the conviction that the long-term insurers could be convinced of the value of the survey it was decided to proceed with the discussion guideline in its detailed format. In the last place, it was argued that it was a discussion guideline and not a questionnaire, and therefore adjustments could be made early during the interviews if it became apparent that the participants were generally faced with time constraints which did not allow enough time to ask all the questions listed in the discussion guideline. A decision was subsequently taken that, if reality proved that all the questions in the discussion guideline could not be asked and a trade-off became unavoidable, the detailed questions about the preliminary assessment of labour-related risks would be limited so that all the questions relating to the detailed assessment of labour-related risks could be answered.

3.5 Reactions obtained

Only 21 of the 52 long-term insurers responded to the invitations and provided particulars of the functionaries who should be contacted to arrange an appointment for the discussion of the impact of labour-related risks on financial investment decision-making. This response was insufficient, given the target of a 100 per cent response rate.

In an effort to meet the target and to prevent further delays, it was decided to make telephone contact with the managing directors of the 31 long-term insurers who did not respond to the initial invitation to participate in the survey. This approach had the desired effect and eventually all of the registered long-term insurers responded to the invitation.

In the end, only five long-term insurers were excluded from the survey. The reasons why they did not participate in the survey can be summarised as follows:

TABLE 4/1: REASONS WHY CERTAIN LONG-TERM INSURERS WERE EXCLUDED FROM THE SURVEY

Reasons	Number of long-term insurers
No equities in investment portfolio	3
Invest mainly in fixed property with only a negligible amount invested in unit trusts	1
Insignificant exposure to equities	1
TOTAL	5

Source: Contact persons at the long-term insurers.

The 47 long-term insurers who participated in the survey provided the following information about the handling of their financial investment activities:

TABLE 4/2: CLASSIFICATION OF THE PARTICIPATING LONG-TERM INSURERS BASED ON THE INVESTMENT MANAGEMENT OF THEIR FINANCIAL ASSETS

Institution responsible for financial investment decision-making	Number	% of 47 long-term insurers
Number of long-term insurers who handle the investment management function themselves	4	8,5
Number of long-term insurers who have outsourced the investment management function to a related investment management company	23	48,9
Number of long-term insurers who have outsourced the investment management function to investment management companies which are not related to them	20	42,6
TOTAL	47	100,0

Source: Contact persons at the long-term insurers.

Although 47 long-term insurers participated in the survey, fewer interviews were required, because there were cases of the same institution handling the financial investment management of more than one long-term insurer. Consequently, 23 interviews were required to cover the financial investment decision-making practices of the 47 participating long-term

insurers. These interviews were conducted during March and the first half of April 1999. The initial objective of the survey, namely to have a response rate of 100 per cent, was therefore achieved.

3.6 Reliability of the information

Due care was exercised to ensure that the information obtained during the survey could be regarded as reliable. It was with this in mind that the invitations to participate in the survey were addressed for the attention of the managing directors of the long-term insurers. This approach was repeated when the long-term insurers who did not respond to the first request to participate, were followed up telephonically. The strategy to follow a top-down approach when the long-term insurers were requested to participate in the survey not only yielded the desired response rate, but also resulted in the co-operation of the executive officers responsible for financial investment decision-making as far as the long-term insurers' assets are concerned. These senior executives eventually either volunteered themselves for interviewing or alternatively nominated investment practitioners capable of representing the respective organisations. The reliability of the information was therefore enhanced by means of the involvement and support of senior management at the long-term insurers, as well as at the investment management companies. The levels of seniority of the officials who were interviewed are illustrated in the following table:

TABLE 4/3: SUMMARY OF THE POSITIONS OF OFFICIALS WHO WERE INTERVIEWED

Position	Number	% of 23 interviews
Director	6	26,1
Chief Investment Officer	5	21,7
Head of Research	2	8,7
Head of Economic Research	1	4,4
Portfolio Manager	6	26,1
Investment Analyst	3	13,0
TOTAL	23	100,0

Source: Question A3 of the discussion guideline.

As can be seen in the above table, 20 of the people interviewed had already achieved management status, while 14 of them were members of the top management teams of their respective organisations. The seniority of the people interviewed not only made a wealth of experience available to the survey, but also meant that they could respond confidently about

financial investment management practices at their organisations. The seniority of the people interviewed therefore contributed in more ways than one to the reliability of the information obtained.

The number of years of experience of financial investment analysis or decision-making as indicated by the officials who were interviewed provided further support to the reliability of the obtained information. This is illustrated in Table 4/4 which indicates that the vast majority of the respondents (78,3 per cent) had six or more years of experience in financial investment analysis or decision-making.

TABLE 4/4: SUMMARY OF YEARS OF EXPERIENCE OF FINANCIAL INVESTMENT ANALYSIS OR DECISION-MAKING AS INDICATED BY THE OFFICIALS WHO WERE INTERVIEWED

Number of years experience (range)	Number of officials	% of 23 interviews
1 – 5	5	21,7
6 – 10	8	34,8
11 – 15	6	26,1
16 – 20	3	13,0
21 – 25	0	0,0
26 – 30	1	4,4
TOTAL	23	100,0

Source: Question A4 of the discussion guideline.

Another aspect that adds to the reliability of the information obtained, relates to the involvement of the people interviewed in financial investment analysis or decision-making. The following table illustrates that 21 of the 23 people interviewed indicated that they are always involved in financial investment analysis or decision-making.

TABLE 4/5: SUMMARY OF THE INVOLVEMENT OF THE PEOPLE INTERVIEWED IN FINANCIAL INVESTMENT ANALYSIS OR DECISION-MAKING

Involvement in financial investment analysis or decision-making	Number	% of 23 interviews
Sometimes	1	4,4
Fairly often	1	4,4
Always	21	91,2
TOTAL	23	100,0

Source: Question A5 of the discussion guideline.

The seniority of the people interviewed, their considerable experience of financial investment analysis or decision-making, and the extent of their involvement, provide ample evidence to conclude that the information obtained during the survey, can be regarded as reliable.

3.7 Problems experienced

A few problems were experienced which required a greater effort than originally anticipated to successfully complete the survey. The first of these problems was the relatively weak response rate which followed after invitation letters had been sent to the registered long-term insurers. Thirty-one long-term insurers had to be convinced telephonically to participate in the survey. The eventual result met the target of a 100 per cent response rate when 47 long-term insurers volunteered to participate in the survey after it was determined that the survey was not applicable to five of the long-term insurers.

The higher than originally anticipated number of long-term insurers (43 of the 47 participating long-term insurers) who indicated that they had outsourced their financial investment decision-making function either to a related investment management company within the same group or to an unrelated investment management company, required a further effort to make a success of the survey. This necessitated telephone calls to the investment management companies and an explanation of the background and purpose of the survey before interview appointments were granted. This task was simplified by the fact that some of the investment management companies handled financial investment decision-making on behalf of more than one long-term insurer. As a result, only 23 interviews (this includes the four long-term insurers who handle financial investment decision-making themselves) were eventually required to cover the 47 participating long-term insurers.

The next problem related to the difficulty with which financial information about the long-term insurers was obtained. The investment management companies indicated in virtually all of the cases that they did not have financial information available in respect of long-term insurers whose investment assets they manage. As a result, it was decided to request the financial statements of the participating long-term insurers from the offices of the participants to whom the written invitations were addressed by telephone. This approach proved unsuccessful, because some of the contact persons had reservations about releasing financial information about their companies based on the fear that it might be misused, while it was

difficult to get hold of the people to whom the invitations were originally sent in other cases. This obstacle was overcome when access to the financial statements of the participating long-term insurers was obtained at the offices of the Financial Services Board. Perusal of the financial statements led to the conclusion that the original objectives in this regard were too optimistic and that the survey should be limited to basic information about the assets of the long-term insurers. This decision was a result of the fact that the extent of disclosure in the financial statements varied among the participating long-term insurers. The decision to focus only on the basic financial information of the long-term insurers probably had a minimal impact on the anticipated results of the survey.

During the initial stage of the survey it became apparent that investment practitioners often perform a dual role, that is, they have investment research as well as portfolio management responsibilities. It therefore was not always possible to separate research activities from portfolio management activities as far as the financial investment decision-making process was concerned. As a result of this, it was decided not to try and make a distinction in this regard, but rather to focus on the total number of people employed who were involved in investment research and portfolio management activities.

The last aspect that required attention related to the large number of questions which had to be reduced when it became apparent, during the first interview, that the discussion guideline was asking too much from the participants. This did not come as a surprise, because the testing of the discussion guideline identified this as a potential problem. This problem was solved by limiting the questions asked about labour stability to questions about strikes and staff turnover (in other words, the participants were not asked to indicate how important they regarded absenteeism, the refusal to work overtime, sabotage and the use of dispute settlement mechanisms as labour-related risk factors). It was specifically mentioned to the people interviewed that questions about labour stability were limited on purpose so that all the aspects that required their attention when a detailed study of labour-related risks was done could be dealt with. In reality this was a small price to pay, because the key information about labour stability was obtained in any case. Labour stability is only one of the aspects that investors have to consider in formulating a preliminary opinion about the importance of labour-related risks for the operations of the enterprise. Psychologically, this approach focused the attention of the participants on the importance of the questions to come and

provided them with an incentive to co-operate at a stage of the discussion when they already had to disclose a vast amount of information.

Based on the content of the preceding paragraphs, it can be concluded that none of the problems that were experienced were insurmountable. Realistically speaking, the occurrence of problems also did not come as a surprise, because the sourcing of information about the impact of labour-related risks on financial investment decision-making by institutional investors was never expected to be a smooth process.

3.8 Degree of representativeness

The degree of representativeness of the institutions included in the survey can be evaluated by comparing their number and their investments and total assets with that of all the long-term insurers who were registered in South Africa at the time of the survey. The information applicable in this regard is summarised in Table 4/6.

TABLE 4/6: COMPARISON OF THE LONG-TERM INSURERS WHO WERE INCLUDED IN THE SURVEY WITH THOSE WHO WERE EXCLUDED FROM THE SURVEY BASED ON THE NUMBER OF THOSE WHO WERE REGISTERED AT THE TIME OF THE SURVEY AS WELL AS BY REFERRING TO THEIR INVESTMENTS AND TOTAL ASSETS

	Number of long-term insurers	Size of investments (R'million)	Size of other assets (R'million)	Size of total assets (R'million)
Long-term insurers included in the survey	47	R528 005	R28 225	R556 230
Long-term insurers excluded from the survey	5	R386	R153	R539
TOTAL	52	R528 391	R28 378	R556 769

Source: Figures compiled by using the financial statements of the long-term insurers.
Note: The financial year-ends applicable to these figures ranged between December 1997 and December 1998.

The information contained in Table 4/6 indicates that 47 or 90,4 per cent of the total number of 52 registered long-term insurers were covered by the survey. If the focus is shifted to the rand amount of investments, the representativeness of the long-term insurers included in the survey is even more significant, because their investments constituted 99,9 per cent of the investments which, at the time of the survey, amounted to R528,4 billion. A similar percentage is obtained if this calculation is repeated in respect of total assets. Ample

evidence therefore exists to show that the long-term insurers who were excluded from the survey represented a small minority as far as numbers are concerned, and even more so when the size of their investments and total assets are taken into consideration. The irrelevance of the long-term insurers who were excluded from the survey for the purposes of the study becomes even more apparent when a further analysis is done. The results of this analysis are summarised in Table 4/7 below.

TABLE 4/7: ANALYSIS OF LONG-TERM INSURERS WHO WERE EXCLUDED FROM THE SURVEY BASED ON THEIR REASONS FOR REFUSING TO PARTICIPATE WITH REFERENCE TO THE SIZE OF THEIR INVESTMENTS AND TOTAL ASSETS

	Number of long-term insurers	Size of investments (R'000)	Size of other assets (R'000)	Size of total assets (R'000)
No equities in investment portfolio	3	R10 164	R22 281	R32 445
Invest mainly in fixed property with only a negligible amount invested in unit trusts	1	R140	R2 444	R2 584
Insignificant exposure to equities	1	R375 933	R128 042	R503 975
TOTAL	5	R386 237	R152 767	R539 004

Source: Reasons for non-participation telephonically obtained from contact persons at long-term insurers and figures compiled from their financial statements.

Note: The financial year-ends applicable to these figures ranged between December 1997 and December 1998.

As can be seen from the above table, only one of the non-participating long-term insurers indicated that it was directly exposed to the equity market at the time of the survey. The spokesperson for this long-term insurer declined to participate in the survey because the size of the equity exposure was insignificant compared to the total portfolio. The long-term insurer's financial statements did not disclose enough information to verify its equity exposure, therefore the verbal comment had to be accepted on face value.

Sufficient evidence therefore exists to conclude that the information obtained by means of the survey is highly representative of the total number of long-term insurers with funds invested on the JSE Securities Exchange South Africa.

3.9 Analysis of the information

The information obtained during the interviews was summarised on an Excel spreadsheet and analysed in conjunction with Doctor T J v W Kotze, head statistician at the University of Stellenbosch's Centre for Statistical Consultation. The guidance of Doctor Kotze covered a number of aspects that are highlighted hereunder.

As a first step, the data were inspected for inconsistencies. Visual inspections of the mean, median, mode and standard deviation for the individual items did not show up any inconsistencies. Thereafter, decisions were taken about the measures that would be appropriate for locality, range and associations, given the characteristics of the data set. The decisions taken in this regard, as well as the reasons for these decisions will be discussed when the findings and conclusions of the empirical study are presented. Doctor Kotze also provided valuable advice when a decision had to be taken about an appropriate hypothesis test to highlight significant differences between knowledge and manual workers as far as labour-related risks are concerned. He also helped to give structure to the analysis of the data and to decide on the extent of refinement that would be meaningful from a statistical point of view.

4. FINDINGS AND CONCLUSIONS OF THE EMPIRICAL STUDY

The different findings and conclusions of the empirical study are set out in the succeeding pages. Salient features of the institutions with whom interviews were conducted, as well as summarised financial information in respect of the long-term insurers who were included in the survey, are presented in the initial section. The financial investment decision-making process applicable to long-term insurance assets is discussed in the second section. Aspects reported include the number of investment practitioners (including investment analysts and portfolio managers) employed and the number of companies they monitor, the research practices at their institutions, as well as the role of portfolio considerations when financial investment decisions are taken. Thirdly, the views of the respondents regarding the importance of each individual labour-related risk factor for the purpose of financial investment decision-making receive the necessary attention. These labour-related risk factors can be split into two groups. The first group includes aspects that have to be considered to formulate a preliminary opinion on the importance of labour-related risks for the purpose of

financial investment decision-making. The second group includes aspects that have to be considered when a detailed study of labour-related risks is done for the purpose of financial investment decision-making. The ranking of labour-related risks in order of their significance by the respondents when they determine the degree of labour-related risk at enterprises is discussed in the fourth place. Finally, the relative importance of labour-related risks (generally speaking) for the purpose of financial investment decision-making receives attention.

The responses regarding labour-related risks that are associated with knowledge worker enterprises are presented simultaneously with the responses obtained as far as manual worker enterprises are concerned. Significant similarities and differences of opinion in this regard are highlighted at the same time. The existence of correlation amongst the various aspects covered in the survey is also reported and discussed.

4.1 General information

The institutions with whom the interviews were conducted can be classified according to a general description, as well as according to the size of the assets of the long-term insurers on behalf of whom financial investment decisions are taken.

TABLE 4/8: CLASSIFICATION OF THE INSTITUTIONS WITH WHOM INTERVIEWS WERE CONDUCTED BASED ON A GENERAL DESCRIPTION OF THEM AS WELL AS BY MENTIONING THE SIZE OF THE ASSETS OF THE LONG-TERM INSURERS ON BEHALF OF WHOM FINANCIAL INVESTMENT DECISIONS ARE TAKEN

Description of institution	Number of institutions	Investments of long-term insurers (R'million)	Other assets of long-term insurers (R'million)	Total assets of long-term insurers (R'million)
Investment management company listed on the JSE Securities Exchange South Africa	1	R131 796	R8 021	R139 817
Unlisted investment management company that is a subsidiary of a listed holding company	15	R205 206	R10 627	R215 833
Unlisted investment management company that is a subsidiary of an unlisted holding company	1	R188 695	R9 106	R197 801
Independent investment management company	1	R881	R241	R1 122
Registered stockbroker	3	R626	R22	R648
Unlisted long-term insurance company that is a subsidiary of a listed holding company	1	R136	R190	R326
Mutual assurer	1	R665	R18	R683
TOTAL	23	R528 005	R28 225	R556 230

Source: Questions A6 and A8 of the discussion guideline as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

Note: Assets were split equally between the applicable investment management companies in cases where long-term insurers indicated that they made use of more than one investment management company to manage their assets.

The single largest group (15 of the 23 institutions) that was interviewed can be described as unlisted investment management companies that are subsidiaries of listed holding companies. The second largest group (three of the 23 institutions) can be described as registered stockbrokers. It is interesting to note the prominence of two institutions (that is the listed investment management company and the unlisted investment management company which is a subsidiary of an unlisted holding company) when reference is made to the assets of the

long-term insurers on behalf of whom financial investment decisions are taken. In total, these two institutions can be linked to long-term insurance assets of more than R3,3 billion compared to a grand total of more than R5,5 billion when the assets of all the long-term insurers are lumped together. This provides some indication of the significant role that a small number of institutional investors play on the JSE Securities Exchange South Africa. The prominence of investment management companies based on their relation to long-term insurance companies can be illustrated as follows:

TABLE 4/9: CLASSIFICATION OF THE INSTITUTIONS WITH WHOM INTERVIEWS WERE CONDUCTED ON THE BASIS OF THEIR RELATIONSHIP WITH LONG-TERM INSURANCE COMPANIES AS WELL AS WITH REFERENCE TO THE SIZE OF THE LONG-TERM INSURERS' ASSETS IN RESPECT OF WHOM FINANCIAL INVESTMENT DECISIONS ARE TAKEN

Description of institution	Number of institutions	Investments of long-term insurers (R'million)	Other assets of long-term insurers (R'million)	Total assets of long-term insurers (R'million)
Institutions that are juridically related to long-term insurers (i.e. in the same group of companies)	15	R521 758	R27 756	R549 514
Institutions that are not juridically related to long-term insurers (i.e. not in the same group of companies)	8	R6 247	R469	R6 716
TOTAL	23	R528 005	R28 225	R556 230

Source: Questions A7 and A8 of the discussion guideline as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

Note: The four long-term insurers who handle the investment management function themselves are classified as related to a long-term insurer.

The information summarised in Table 4/9 indicates the dominance of investment management companies that are juridically related (i.e. in the same group of companies) to long-term insurers (98,8 per cent of total assets) compared to investment management companies that are not juridically related (i.e. not in the same group of companies) to long-term insurers. Further analysis of the information regarding the investment management companies that are juridically related to long-term insurers focuses the attention on the prominent role that a small number of these institutions play as far as financial investment decision-making is concerned. The information in this regard is summarised in Table 4/10 below.

TABLE 4/10: RANKING IN DESCENDING ORDER OF INVESTMENT MANAGEMENT COMPANIES THAT ARE JURIDICALLY RELATED TO LONG-TERM INSURERS BASED ON THE SIZE OF LONG-TERM INSURANCE ASSETS IN RESPECT OF WHICH FINANCIAL INVESTMENT DECISIONS ARE UNDERTAKEN

Ranking in descending order of investment management companies that are juridically related to long-term insurers	Investments of long-term insurers (R'million)	Other assets of long-term insurers (R'million)	Total assets of long-term insurers (R'million)	% of total assets of long-term insurers
Largest two	R320 491	R17 127	R337 618	61,4
Number three and four	R128 353	R3 990	R132 343	24,1
Number five and six	R47 702	R5 192	R52 894	9,6
Bottom nine	R25 212	R1 447	R26 659	4,9
TOTAL	R521 758	R27 756	R549 514	100,0

Source: Questions A7 and A8 of the discussion guideline as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The information in Table 4/10 provides proof of the significant role which a small number of investment management companies which are juridically related to long-term insurers play as far as financial investment decision-making of long-term insurance assets are concerned. The largest two investment management companies among those institutions that are juridically related to long-term insurance companies, can be linked to 61,4 per cent of the total assets in respect of which these investment managers perform financial investment decision-making. On a similar basis, it can be seen that the top six investment management companies can be linked to 95,1 per cent of the total long-term insurance assets. In contrast, the bottom nine investment companies can be linked to only 4,9 per cent of these long-term assets.

Ample evidence therefore exists that institutional investors who are juridically related to long-term insurers, are able to play a more influential role on the JSE Securities Exchange South Africa than their counterparts who are not juridically related to long-term insurers when financial investment decisions are taken regarding the assets of long-term insurers. In addition, it is obvious that a significant amount of decision-making power, as far as the financial investment of long-term insurance assets is concerned, is concentrated in the hands of a small number of investment management companies.

4.2 Information about the decision-making process applicable to financial investment decision-making as far as long-term insurance assets are concerned

Although the theoretical study focused predominantly on labour-related risks and the impact thereof on financial investment decision-making, it was decided that the survey should also pay specific attention to the decision-making process applicable to financial investment decision-making. It was argued that, although the scope of the study did not require an in-depth literature study of different investment decision-making processes, incorporation of this information in the survey could help to explain the assessment of labour-related risks when decisions are taken in practice. It would, for example, be important to investigate how much time and other resources these institutional investors made available in order to thoroughly analyse the enterprises that were being considered for investment purposes. Information about the number of investment practitioners (including investment analysts and portfolio managers) that were employed, the number of companies that they monitored, the extent to which independent research was conducted by them and the practice of making use of externally researched investment reports, provides a lot of information with regard to the ability of these institutional investors to make well-informed financial investment decisions. Information about their portfolio management practices indicates whether enterprises are assessed in isolation for financial investment purposes or whether labour-related risks are assessed from a portfolio point of view. This type of information is of great value, because it indicates to what extent it is possible for enterprises to pass the investment criteria of these institutional investors (due to their impact on the risk profile of their investment portfolios) although they might not appear as attractive investment opportunities in isolation, due to the labour-related risks attached to them. The last aspect that receives attention in this section relates to whether the same investment decision-making process is adhered to irrespective of whether long-term insurance assets or funds of other clients are invested.

4.2.1 Ability of institutional investors to make well-informed financial investment decisions

The ability of institutional investors to make well-informed financial investment decisions is determined, in the first place, by the number of people employed by them to focus on this task, as well as by the number of companies they are required to monitor. Other things being equal, the ability of an institutional investor to make well-informed decisions weakens as the

number of companies monitored by each investment practitioner increases. The responses of the participants in the survey are summarised in Table 4/11:

TABLE 4/11: SUMMARY OF THE NUMBER OF INVESTMENT PRACTITIONERS EMPLOYED BY THE PARTICIPANTS IN THE SURVEY AND THE NUMBER OF ENTERPRISES MONITORED FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

(a) (b) (c)	Number of investment practitioners employed Number of companies monitored Number of companies monitored by each investment practitioner [(c) = (b) / (a)]	Respon-dents	% of 23 interviews
(a)	1 – 5	8	34,8
	6 – 10	7	30,4
	11 – 15	5	21,7
	16 – 20	1	4,3
	21 – 25	1	4,3
	26 – 30	1	4,3
(b)	1 – 120	6	26,1
	121 – 240	10	43,5
	241 – 360	3	13,0
	361 – 480	1	4,3
	481 – 600	0	0,0
	601 – 720	3	13,0
(c)	1 – 15	7	30,4
	16 – 30	7	30,4
	31 – 45	5	21,7
	46 – 60	3	13,0
	61 – 75	0	0,0
	76 – 90	1	4,3

Source: Questions B1 and B2 of the discussion guideline.

Perusal of the information summarised in Table 4/11 indicates that the majority of the respondents (86,9 per cent) did not employ more than 15 investment practitioners to monitor companies for the purpose of financial investment decision-making. To put this into perspective, it is interesting to note that the largest portion of the respondents (43,5 per cent) monitored between 121 and 240 companies, while the vast majority (82,6 per cent) indicated that they monitor a maximum of 360 companies. Consequently, in 60,8 per cent of the cases each investment practitioner is responsible for monitoring not more than 30 companies at any stage. This is increased to 82,5 per cent if the cut-off is pegged at a maximum of 45 companies per investment practitioner. On this score alone, it is reasonable to conclude that the majority of investment practitioners responsible for investing the financial assets of long-term insurers, should be able to assess each of the prospects included in their respective target group of companies thoroughly, as they have at least a week on average to spend on each prospect during a year. This implies that the largest 240 companies, and possibly as many as

360 companies listed on the JSE Securities Exchange South Africa, stand a reasonable chance of being subjected to rigorous analysis by the majority of investment practitioners who manage long-term insurance assets. On the other hand, it also implies that about 50 per cent of the 668 companies listed on the JSE Securities Exchange South Africa at the time of the survey received little or no attention from these investors, assuming that all investment practitioners analyse the main companies (JSE, 1998:2). The possibility therefore exists that a significant number of listed companies are not correctly priced to take into account prevailing labour-related risks.

The involvement of external researchers reduces the possibility of investment-related risks being inadequately or incorrectly priced. It was therefore deemed necessary to determine the extent to which respondents make use of investment reports prepared by reputable external researchers. The survey results are summarised in Table 4/12.

TABLE 4/12: SUMMARY OF RESPONSES REGARDING THE PRACTICE OF DOING INDEPENDENT RESEARCH AS WELL AS THE EXTENT TO WHICH THE RESPONDENTS MAKE USE OF INVESTMENT REPORTS PREPARED BY REPUTABLE EXTERNAL RESEARCHERS

(a) Respondents who do independent research (b) Respondents who make use of investment reports prepared by external researchers		Number	% of 23 interviews
Not at all	(a)	2	8,7
	(b)	1	4,3
Once in a while (25% of the time)	(a)	4	17,4
	(b)	3	13,0
Sometimes (50% of the time)	(a)	2	8,7
	(b)	1	4,3
Fairly often (75% of the time)	(a)	6	26,1
	(b)	8	34,8
Always	(a)	9	39,1
	(b)	10	43,5

Source: Questions B3 and B4 of the discussion guideline.

The information summarised in Table 4/12 indicates that it is standard practice for the majority of the respondents (65,2 per cent) to do independent research either fairly often or always. The investment practitioners are therefore not only *able* to subject the investment prospects to rigorous analysis as pointed out above, they in fact also do so. In addition, 78,3 per cent of the respondents indicated that they make use of investment reports prepared by reputable external researchers, either fairly often or always. The majority of financial investment decisions taken in respect of long-term insurance assets are therefore based on the

research of more than one institution. This tends to improve the quality of financial investment decision-making and reduces the incorrect assessment of labour-related risks.

Based on the findings reported in this section, it can be concluded that the vast majority of respondents should be able to make well-informed financial investment decisions. This is reflected by the manageable number of companies which the majority of investment practitioners are required to monitor, as well as the high incidence of independent research that is usually supported by investment reports prepared by reputable external researchers.

4.2.2 Portfolio management practices

The portfolio management practices of the respondents disclose important information about the decision-making process. Amongst others, they show whether enterprises are assessed in isolation or whether labour-related risks are assessed from the point of view of a portfolio. This type of information is of great value, since it indicates to what extent it is possible for an enterprise, which may not appear to be an attractive investment opportunity in isolation (due to the labour-related risks attached to it), to still pass the criteria of investment practitioners because of its limited impact on the risk profile of the relevant investment portfolios.

With this in mind, respondents were requested to comment on whether they followed the practice of specifying exposures for the purpose of portfolio management in respect of individual companies. Their responses are summarised in Table 4/13.

TABLE 4/13: SUMMARY OF RESPONSES REGARDING THE PRACTICE OF SPECIFYING EXPOSURES FOR THE PURPOSE OF PORTFOLIO MANAGEMENT IN RESPECT OF INDIVIDUAL COMPANIES

Response	Number	% of 23 interviews
Yes	21	91,3
No	2	8,7
TOTAL	23	100,0

Source: Question B5 of the discussion guideline.

It is evident that the vast majority of respondents (91,3 per cent) do specify exposures in portfolio management of individual companies. For example, an institutional investor may decide that an investment in company A may represent 10 per cent of the long-term insurance

assets available to the investment portfolio. This implies that almost all enterprises are not assessed in isolation only, but also with regard to the impact which investment in them has on the investment portfolio. Enterprises that are disqualified in isolation for the purpose of financial investment decision-making, as a result of their labour-related risks, may therefore become attractive on account of the weak or even negative correlation of their labour-related risks with that of an existing investment portfolio. On the face of it, this result appears promising, because it can also be justified from a theoretical point of view. The conclusion cannot be reached, however, that the majority of respondents do indeed adhere to this approach in practice as far as labour-related risks are concerned. Strictly speaking, this may only be the case if portfolios are also constructed with reference to the labour-related risks of the enterprises in the portfolio. In other words, a portfolio constructed with reference to industry only, does not necessarily imply that the portfolio is also well-balanced from the viewpoint of labour-related risks. An example would be a diversified portfolio that includes banking, financial services, insurance, technology and media shares. From the industry point of view, the portfolio might then appear to be satisfactorily balanced. From the viewpoint of labour-related risk, however, it might be highly unbalanced because it is biased towards knowledge-related workers whose risk profile differs from manual workers. In spite of this, it is promising to notice the awareness among respondents of the importance of portfolio considerations, for though labour-related risks might not receive the necessary attention directly, the possibility exists that it is taken into account indirectly when portfolios are constructed.

Respondents were also asked whether portfolio managers were allowed to deviate from the specified exposures of individual companies. The responses of the 21 respondents who did specify exposures are summarised in Table 4/14 below.

TABLE 4/14: SUMMARY OF RESPONSES AS TO WHETHER PORTFOLIO MANAGERS ARE ALLOWED TO DEVIATE FROM EXPOSURES SPECIFIED IN RESPECT OF INDIVIDUAL COMPANIES

Response to question whether portfolio managers are allowed to deviate from the exposures specified in respect of individual companies	Number	% of 21 responses
Yes	12	57,1
No	9	42,9
TOTAL	21	100,0

Source: Question B6 of the discussion guideline.
Note: Only those respondents who answered "yes" to question B5 (refer to table 4/13) had to respond to this question. All of the 21 respondents who answered "yes" to question B5 replied to question B6.

The summary of these responses indicates that, although deviations from the specified exposures of individual companies were allowed in the majority of cases (57,1 per cent), a significant number of respondents (42,9 per cent) said that this was not allowed at their institutions. The former thus implies a larger degree of flexibility than the latter when financial investment decisions are taken. As a result of a flexible approach, certain companies might have a bigger or smaller share in the investment portfolio than would have been the case if deviations were not allowed. In other words, if it is fashionable to invest in companies that employ mainly knowledge workers, companies employing mainly manual workers may have a smaller share in the investment portfolio when a flexible approach is followed than when the opposite applies. The extent of this kind of risk is limited by the practice among respondents to specify boundaries beyond which deviations are not allowed. These boundaries, or maximum deviations which are allowed from specified exposures, are summarised in Table 4/15.

TABLE 4/15: SUMMARY OF MAXIMUM ALLOWABLE DEVIATIONS FROM EXPOSURES SPECIFIED IN RESPECT OF INDIVIDUAL COMPANIES

Maximum allowable deviation from exposures which are specified in respect of individual companies (expressed as a percentage of the specified exposure)	Number	% of 9 responses
1 % – 5 %	4	44,4
6 % – 10 %	4	44,4
11 % – 15 %	0	0
16 % – 20 %	1	11,2
TOTAL	9	100,0

Source: Question B7 of the discussion guideline.
Note: Only nine of the 12 respondents who allow their portfolio managers to deviate from the exposures specified in respect of individual companies (refer to table 4/14) disclosed the maximum deviation which is allowed.

A majority of people who responded to this question (88,8 per cent) confirmed that they allowed a maximum deviation of 10 per cent in respect of specified exposures at individual companies. Only one respondent did not fall into this group, and mentioned that it allowed a maximum deviation of 20 per cent. It may therefore be concluded that the ability of portfolio managers to deviate from specified exposures in respect of individual companies is fairly limited.

Those respondents who did allow deviation from exposures were asked to specify the conditions that had to be met for this to happen. The responses to this question may be summarised as follows:

TABLE 4/16: SUMMARY OF CONDITIONS TO BE MET FOR PORTFOLIO MANAGERS TO DEVIATE FROM THE EXPOSURES SPECIFIED IN RESPECT OF INDIVIDUAL COMPANIES

Conditions to be met for portfolio managers to deviate from specified exposures	Number	% of 6 responses
Financial Services Board regulations	2	33,3
Mandate of client	2	33,3
Specified maximum deviation not to be exceeded	1	16,7
Approved investment procedure to be adhered to	1	16,7
TOTAL	6	100,0

Source: Question B8 of the discussion guideline.
Note: Only six of the 12 respondents who allow deviations from the exposures specified in respect of individual companies (refer to table 4/14) disclosed the conditions which must be met for these deviations to be allowed.

The above responses are not mutually exclusive, because, although the respondents did not specifically mention it, they apply equally to each of them. In other words, although only two of the respondents mentioned Financial Services Board regulations as a condition which had to be met, the others also had to operate within these constraints, notwithstanding the fact that they did not mention it. This argument can be repeated for each of the four conditions that are listed in Table 4/16. It may therefore be concluded that deviations from specified exposures in respect of individual companies when investment portfolios are constructed are allowed on condition that portfolio managers adhere to the regulations or guidelines as specified by the Financial Services Board, their clients and employers.

4.2.3 Extent to which the financial investment decision-making process applicable to long-term insurance assets is also applicable to assets managed on behalf of other clients

The respondents were asked to indicate the extent to which the financial investment decision-making process applicable to long-term insurance assets deviates from that pertaining to assets managed on behalf of other clients. All 21 respondents who replied to this question indicated that the same process was followed, irrespective of whose assets were managed. The two enterprises that did not respond, stated that this question did not apply to them, because they were long-term insurers who did not manage any assets other than their own. The fact that a similar financial investment decision-making process is followed irrespective of whose assets are managed, adds considerable weight to the findings and conclusions of the empirical study. It is therefore reasonable to conclude that labour-related risks have a similar impact on financial investment decision-making by the respondents, irrespective of whether long-term insurance assets or assets of other clients are managed.

4.2.4 Correlation amongst the aspects related to the financial investment decision-making process, and their correlation with the general information disclosed

Although the correlation between all aspects was screened, only those significant at the five per cent level, are reported. The conclusion can therefore be reached that, if no comments were made about the correlation between two variables, the correlation that may exist is not significant at the five per cent level. This is a conservative approach, because the risk of reaching the wrong conclusions about the population is limited to five per cent.

Throughout the study, Spearman's rank correlation coefficient will be used as a measure of correlation. This is regarded as appropriate, because it was designed as a measure of correlation for ordinal level data. Ordinal data refer to data that are, or can be, ranked from either low to high or vice versa. This applies to the majority of data that were obtained during the survey, because the discussion guideline made use of an ordinal level of measurement which assumes that one category is ranked higher than the next one, i.e. "extremely important" is a higher rating than "highly important", "highly important" is higher than "moderately important", and so on. Symbolised by r_s, the Spearman rank correlation coefficient measures the degree of relationship between two sets of ranked observations (Mason & Lind, 1990:505). This correlation coefficient can assume any value from -1,00 to

+1,00 inclusive, with -1,00 indicating perfect negative correlation, +1,00 indicating perfect positive correlation, and 0,00 indicating no relationship between two sets of data.

The significance of r_s was also tested in each case. The test of significance was conducted to answer the question whether it was possible for the computed correlation to be due to chance, and that the correlation in the population was really 0,00. The significance of r_s was tested by using a t-test.

The null hypothesis and alternative hypothesis used in each case may be stated as follows:

Null hypothesis (H_0): The correlation in the population is zero.

Alternative hypothesis (H_1): The correlation in the population is different from zero.

Using the five per cent level of significance, the decision rule states that, if the computed Student t falls in the range between +2,080 and -2,080 , the null hypothesis will be accepted. The null hypothesis would, however, be rejected if the computed Student t falls in the area of rejection, larger than +2,080 and smaller than -2,080. If so, it is highly unlikely that there is no relationship between the two variables in the population. The computed value of t is found by:

$$t = r_s \sqrt{\frac{n-2}{1-r_s^2}}$$

Where t = computed Student t value,

n = number of observations,

r_s = Spearman rank correlation coefficient, with (n-2) degrees of freedom.

In what follows, significant positive and negative correlations between the aspects at the five per cent level of significance are reported. Correlation between the aspects reported in the rest of the study is interpreted in a similar way.

Meaningful correlation between the aspects that is significant at the five per cent level is summarised in Table 4/17 hereunder.

TABLE 4/17: SUMMARY OF SIGNIFICANT CORRELATION AMONGST ASPECTS RELATED TO THE FINANCIAL INVESTMENT DECISION-MAKING PROCESS, AS WELL AS THEIR CORRELATION WITH THE GENERAL INFORMATION DISCLOSED

Description	Number of responses	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Number of investment practitioners employed & Number of companies monitored	23	0,453	2,330	0,030
Number of investment practitioners employed & Number of companies monitored / Number of investment practitioners employed	23	-0,487	-2,554	0,018
Number of investment practitioners employed & Practice of doing independent research	23	0,466	2,417	0,025
Total investments / Number of investment practitioners employed & Use of investment reports prepared by external researchers	23	0,522	2,803	0,011
Total assets / Number of investment practitioners employed & Use of investment reports prepared by external researchers	23	0,543	2,963	0,007

Source: Responses to questions in sections A and B of the discussion guideline, as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The above table highlights the positive correlation between the number of investment practitioners employed who primarily focus on equity investments, and the number of companies that are monitored for the purpose of financial investment decision-making (correlation coefficient of 0,453 and p-value of 0,030). This can be expected, because the ability to monitor a larger number of companies will improve as more investment practitioners are employed. The number of investment practitioners employed and the number of companies monitored by each investment practitioner are negatively correlated (correlation of -0,487 and p-value of 0,018), which shows that the number of companies which each investment practitioner has to monitor decreases as the number of investment practitioners increases. Joint interpretation of the correlation among the aspects mentioned above indicates that institutions which expand their investment management teams are also able to increase the number of companies they monitor. Perhaps even more important, it

reduces the number of companies that each investment practitioner has to monitor. Institutions with a relatively large number of investment practitioners should therefore be able to spend more time on the analysis of each company they monitor than institutions that employ fewer investment practitioners. Other things being equal, institutions with a large number of investment practitioners should be able better to assess labour-related risks at the companies that they monitor. Companies that are of the opinion that their shares are undervalued on the JSE Securities Exchange South Africa due to perceived labour-related risks, should therefore first approach institutions that employ large numbers of investment practitioners, because these institutions should have more time available to assess detailed labour-related information. This is reflected by the positive correlation of 0,466 (p-value of 0,025) among the number of investment practitioners employed and the practice at those institutions of doing independent research.

The correlation among the other aspects reported in Table 4/17 refers to the practice at institutions of making use of investment reports prepared by reputable external researchers. A positive correlation exists between total investments in respect of each investment practitioner and the practice of making use of investment reports prepared by reputable external researchers (correlation coefficient of 0,522 and p-value of 0,011). This is also the case when total assets in respect of each investment practitioner is linked to the practice of making use of investment reports (correlation coefficient of 0,543 and p-value of 0,007). The positive correlation in both cases can be explained by a growing need among investment practitioners to validate their own investment recommendations with those of reputable external researchers as they are faced with the responsibility of managing larger investment funds.

4.3 Information about the practice of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making of long-term insurance assets by the intuitive evaluation of certain key labour-related risks

During the literature study, labour intensity, labour stability, the anticipated payback period applicable to the investment, the marketability of the investment, and the incremental effect of the investment on labour-related risks inherent in the existing investment portfolio were identified as aspects that should be considered to formulate a preliminary opinion about the importance of labour-related risks for the purpose of financial investment decision-making.

The views of the participating institutions regarding the aspects mentioned in the preceding paragraph are reported in this section. The responses on labour-related risks that are associated with knowledge workers are presented simultaneously with the responses obtained as far as manual workers are concerned. Significant similarities and differences of opinion are highlighted. The existence of correlation amongst the labour-related aspects is reported and discussed at the end of this section.

4.3.1 The role of intuition when institutional investors assess labour-related risks for the purpose of financial investment decision-making

The participants in the survey were requested to disclose how often they formulated a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of certain key labour-related risk factors. The purpose of this question was to determine the relative importance of intuition in formulating a preliminary opinion about the importance of labour-related risks for the purpose of financial investment decision-making. Once this was known, the focus could be shifted to the importance of each of the relevant labour-related risk factors. The responses of the participants regarding the habit at their institutions in formulating a preliminary opinion based on intuition, are summarised in the following pivot table.

TABLE 4/18: SUMMARISED RESPONSES REGARDING THE HABIT OF INSTITUTIONAL INVESTORS OF FORMULATING A PRELIMINARY OPINION ON LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING BY THE INTUITIVE EVALUATION OF CERTAIN KEY LABOUR-RELATED RISK FACTORS

Frequency	Habit of formulating a preliminary opinion based on intuition in cases where *knowledge* workers are predominant in the labour force				
Habit of formulating a preliminary opinion based on intuition in cases where *manual* workers are predominant in the labour force	Not at all	Once in a while (25% of the time)	Sometimes (50% of the time)	Fairly often (75% of the time)	Always
Not at all					
Once in a while (25% of the time)		2		2	1
Sometimes (50% of the time)				2	
Fairly often (75% of the time)		1	2	3	4
Always			1	1	4

Source: Question C-1 of the discussion guideline.
Note: The discussion guideline made use of the following ordinal scale:
1 = not at all
2 = once in a while (25% of the time)
3 = sometimes (50% of the time)
4 = fairly often (75% of the time)
5 = always
The numbers on the ordinal scale were used to calculate the statistics that are quoted below.

The responses summarised in Table 4/18 resulted in a mean of 3,74 for cases where the labour force predominantly consists of manual workers and a slightly higher mean of 4,00 for knowledge worker enterprises. This implies that a preliminary opinion on labour-related risks is more often based on intuition in the case of knowledge worker enterprises than in the case of manual worker enterprises. The mean is the preferred measure of central tendency for the purposes of this study, because it discriminates better than the median which in most cases will be an integer. The mean is therefore helpful in appraising smaller differences between different paired measurements. The range of 3 with a minimum value of 2 and a maximum value of 5 in both cases implies a similar spread of opinions in respect of this aspect for the two types of enterprises. In what follows, the range in opinions will be reported, but will only be commented on if the difference in the range as far as manual and knowledge workers are concerned, exceeds one.

The mean (as a measure of central tendency) and the range (as a measure of dispersion) are valuable measures to describe the data. Differences in opinion regarding manual and

knowledge workers, however, are not adequately highlighted by these measures. Table 4/18 shows that there was no difference between the cases of manual and knowledge worker enterprises (refer to the numbers in the shaded cells) for nine of the respondents. The combination of these cells is referred to as the diagonal line. The numbers above the diagonal line (nine in total) represent those respondents who indicated that they formulated a preliminary opinion in this regard for knowledge worker enterprises more often than for manual worker enterprises. For example, one of the respondents indicated that a preliminary opinion was always formulated in the case of knowledge worker enterprises, while it only happened once in a while (25% of the time) in the case of manual worker enterprises. In contrast, the observations below the diagonal line (five in total) indicate that a preliminary opinion is formulated more often for manual worker enterprises than for knowledge worker enterprises. This highlights the need for a statistical measure to indicate whether these differences in opinion regarding manual worker and knowledge worker enterprises are significant. The sign test (Sachs, 1984:316-320) is used throughout this study to investigate whether the observed differences are significant. The sign test is one of the simplest non-parametric tests and requires that the responses be ordinal-level at least, that is, that the responses can be ranked from low to high. It is therefore perfectly suited to the purposes of this study. The name "sign test" refers to the fact that only the signs of differences between observations are evaluated. The null hypothesis of the sign test is that the differences of paired observations on average are equal to zero; one expects about half of the differences to be less than zero (negative signs) and the other half to be greater than zero (positive signs). The sign test thus tests the null hypothesis that the distribution of the differences has median equal to zero. The null hypothesis is rejected if the number of differences of one particular sign is too large or too small, i.e. if this number falls short of or exceeds the respective confidence bounds which are summarised in a standardised table. The five per cent level was selected as the level of significance. Application of the sign test to the data summarised in the above table, where there are nine observations above the diagonal line and a similar number on it and five observations below the diagonal line, results in the null hypothesis not being rejected at the five per cent level of significance. The habit of institutional investors to formulate a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of certain key labour-related risk factors, can therefore be regarded as the same for both manual worker and knowledge worker enterprises. The sign test will hereafter be applied in a similar way without detailed discussion of the workings thereof.

A pivot table was used to summarise the responses regarding the habit of formulating a preliminary opinion in respect of labour-related risks. This was done on purpose to illustrate aspects such as the diagonal line and to explain the working of the sign test that investigates whether the differences of opinion in respect of knowledge and manual workers are significant. In order to be able to present the results of the empirical study in a more concise format, which is valuable to grasp the content thereof better, pivot tables will not be used in the rest of the study. The responses of the participants will rather be summarised in tables that highlight the mean in respect of each labour-related risk factor, the number of observations above, on and below the diagonal line, as well as whether the differences of opinion in respect of knowledge and manual workers are significant according to the sign test.

4.3.2 Responses regarding aspects which have to be considered in order to formulate a preliminary opinion about the *importance* of labour-related risks for the operations of the enterprise

Labour intensity, as well as labour stability, has to be considered in order to formulate a preliminary opinion about the importance of labour-related risks for the operations of the enterprise. The respondents' views in respect of the *importance* of these labour-related risk factors, as well as of the components thereof, are summarised in Table 4/19.

TABLE 4/19: RESPONSES IN RESPECT OF ASPECTS WHICH HAVE TO BE CONSIDERED IN FORMULATING A PRELIMINARY OPINION ABOUT THE *IMPORTANCE* OF LABOUR-RELATED RISKS FOR THE OPERATIONS OF THE ENTERPRISE

Labour-related risk factor	Manual workers	Knowledge workers	Sign test	
	Mean	Mean	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
Labour intensity	**3,39**	**3,30**	**6/10/7**	**NS**
Relative size of the labour force	3,09	2,57	12/6/5	NS
The labour force's relative share of the annual value	3,09	3,52	5/9/9	NS
Unionisation	3,57	1,04	23/0/0	S (1%)
One or more subsectors in the labour force which are of critical importance to the operations of the enterprise	2,74	3,74	1/8/14	S (1%)
Capital intensity	3,61	3,26	9/11/3	NS
Capital structure	3,43	3,30	5/16/2	NS
Labour stability	**3,70**	**4,04**	**3/11/9**	**NS**
Strikes	4,13	1,00	23/0/0	S (1%)
Staff turnover	2,00	4,26	0/1/22	S (1%)

Source: Question C2 of the discussion guideline.

Note: The discussion guideline made use of the following ordinal scale which applies to all of the labour-related risk factors which are quoted in the rest of the study:
1 = not important
2 = little important
3 = moderately important
4 = highly important
5 = extremely important
The numbers on the ordinal scale were used to calculate the statistics in respect of all these labour-related risk factors which are quoted in the rest of the study.

4.3.2.1 Labour intensity and related aspects

1) Labour intensity

The mean of 3,39 (range of 2 with a minimum value of 3 and a maximum value of 5) in the case of manual worker enterprises is slightly more important than the mean of 3,30 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises. It is also interesting to note that the mean in the case of knowledge worker enterprises is accompanied by a range of 4, which is greater than the range of 2 in the case of manual worker enterprises. The respondents therefore differed more with regard to their views of the importance of labour intensity as a labour-related risk factor for knowledge worker

enterprises than with regard to their views in this regard as far as manual worker enterprises are concerned.

The sign test was applied to determine whether there are significant differences between the paired observations as far as labour intensity is concerned. This led to the null hypothesis not being rejected, which implies that the differences between the paired observations on average are equal to zero. The conclusion can therefore be reached that the respondents regarded labour intensity as of equal importance when manual and knowledge worker enterprises were assessed for the purpose of financial investment decision-making.

The discussion guideline proceeded by focusing on aspects that should be considered in conjunction with the labour intensity of prospective investment opportunities. The first two of these aspects were the size of the labour force and the labour force's share of the annual value that had been added to the business, both in comparison with the extent of the enterprise's total assets and operations. Joint consideration of these two aspects provides investors with an indication of obvious labour intensity at the enterprise as defined earlier in this study. The other aspects covered by the discussion guideline include unionisation, the importance of one or more subsectors in the labour force which are of critical importance to the operations of the enterprise, capital intensity and the capital structure of the enterprise. The latter labour-related risk factors have a bargaining power impact on obvious labour intensity with effective labour intensity as a result. The views of the respondents on all of these aspects will now be discussed.

2) Size of the labour force in comparison with the extent of the enterprise's total assets and operations

The mean of 3,09 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises is more important than the mean of 2,57 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises.

When the views of the individual respondents are analysed, it becomes apparent that six rated the relative size of the labour force as being of equal importance for manual and knowledge worker enterprises, while 12 of them were of the opinion that it is of more importance for manual worker enterprises, with five of the respondents maintaining an opposite view.

Application of the sign test indicates that these differences in opinion are not significant at the five per cent level of significance. The null hypothesis is therefore not rejected, which means that the relative size of the labour force can be regarded as an equally important labour-related risk factor for both manual and knowledge worker enterprises.

3) The labour force's share of the annual value in comparison with the extent of the enterprise's total assets and operations

The mean of 3,09 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of enterprises predominantly employing manual workers, compared to 3,52 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises, indicates that the labour force's relative share of the annual value created in the enterprise is more important for enterprises employing knowledge workers than for those employing manual workers. Investigation of the significance of differences of opinion as far as paired observations are concerned, results in the null hypothesis not being rejected. The labour force's relative share of the annual value created in the enterprise can therefore be regarded as being of equal importance as a labour-related risk factor for manual and knowledge worker enterprises.

4) Unionisation

The answers of the respondents regarding the importance of unionisation as a labour-related risk factor influencing the operations of the enterprise, resulted in a mean of 3,57 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises and a mean of 1,04 (range of 1 with a minimum value of 1 and a maximum value of 2) in the case of knowledge worker enterprises. Unionisation as a risk factor was therefore close to highly important when manual worker enterprises were assessed for the purpose of financial investment decision-making, while it was regarded as of almost no importance when knowledge worker enterprises were considered. The range of the responses for manual workers on the one hand and knowledge workers on the other hand discloses another important aspect. The range of 3 indicates that there was less agreement among the respondents as far as manual workers were concerned, compared to knowledge workers where 22 of the 23 respondents indicated that unionisation was not important. Cognisance should therefore be taken of the fact that, although the responses in respect of manual worker

enterprises resulted in a mean which indicates that unionisation is bordering on high importance, some of the respondents regarded it as of little or moderate importance.

As far as differences of opinion are concerned, all the respondents were of the opinion that unionisation was a more important risk factor for manual worker enterprises than for enterprises predominantly employing knowledge workers. This is confirmed by the sign test that rejects the null hypothesis at the one per cent level of significance. Comparison of this finding with the findings reported in the preceding paragraph indicates that, although not all the respondents agreed on the importance of unionisation as a labour-related risk factor for manual worker enterprises, none of them rated unionisation as more important for knowledge worker enterprises than for manual worker enterprises.

The views of the respondents as summarised in the preceding paragraphs highlight the attention which institutional investors pay to the ability of trade unions to organise manual workers to speak collectively when bargaining with employers. On the other hand, it also focuses attention on knowledge workers who are less reliant on trade unions to exert pressure on their employers.

5) <u>One or more subsectors in the labour force which are of critical importance to the operations of the enterprise</u>

The participants in the survey rated one or more subsectors in the labour force which are of critical importance to the operations of the enterprise as more important for knowledge worker enterprises than for manual worker enterprises. This is reflected by the mean of 3,74 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises, and 2,74 (range of 4 with a minimum value of 1 and a maximum value of 5) for those enterprises mainly employing manual workers.

As can be seen in Table 4/19, fourteen of the respondents were of the opinion that this risk factor was of more significance for knowledge worker enterprises than for manual worker enterprises. Only one respondent disagreed with this view, while eight of them were of the opinion that was of equal importance for both types of enterprises. Application of the sign test results in rejection of the null hypothesis at the one per cent level of significance. To be

more specific, respondents regarded this labour-related risk factor as of more importance for knowledge than for manual worker enterprises.

This can be ascribed to the perception amongst respondents regarding the difficulty in finding replacements for highly trained employees, as well as the disruption which delays in this regard can cause to the operations of the enterprise, the high value created by individuals, as well as functional groups of knowledge workers, and the perception that subgroups of specialists are more often found within knowledge worker enterprises than in manual worker enterprises.

6) Capital intensity

The mean of 3,61 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises is closer to highly important than the mean of 3,26 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises.

Although nine of the respondents were of the opinion that capital intensity was more important in manual than in knowledge worker enterprises, while only three had an opposing view, the null hypothesis of no difference is not rejected by the sign test. The relatively large number of responses on the diagonal line (11 in total) which rated capital intensity as being of equal importance for both types of enterprises, play a significant role in this regard. The conclusion can therefore be reached that the survey participants regarded capital intensity as of equal importance for manual and knowledge worker enterprises.

7) Capital structure

The responses resulted in a mean of 3,43 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises, which is more important than the mean of 3,30 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises.

The sign test indicates that the differences between the paired observations are not significant. The null hypothesis is not rejected at the five per cent level of significance, which implies that the respondents regarded capital structure as equally important for manual

and knowledge worker enterprises when labour-related risks are assessed for the purpose of financial investment decision-making. The high number of observations on the diagonal line (16 of the 23 respondents indicated that they place a similar emphasis on this aspect for both types of enterprise) plays an important role in this finding.

4.3.2.2 Labour stability and related aspects

1) Labour stability

The mean of 3,70 (range of 2 with a minimum value of 3 and a maximum value of 5) in the case of manual worker enterprises, and of 4,04 (range of 3 with a minimum value of 2 and a maximum value of 5) for knowledge worker enterprises, provide an indication of the emphasis which the respondents placed on labour stability when labour-related risks were assessed for the purpose of financial investment decision-making.

Although labour stability generally is a more important risk factor in the case of knowledge worker enterprises than for manual worker enterprises, the sign test indicates at the five per cent level that there are no significant differences in the emphasis which the individual respondents placed on this aspect when labour-related risks were assessed at these two types of enterprises. The null hypothesis is therefore not rejected.

The next two questions of the discussion guideline focused on the aspects that should be considered in order to judge labour stability at the enterprises evaluated for the purpose of financial investment decision-making. The aspects to consider in this regard are strikes and staff turnover.

2) Strikes

The mean of 4,13 (range of 2 with a minimum value of 3 and a maximum value of 5) in the case of manual worker enterprises, and of 1,00 (range of 0) for knowledge worker enterprises indicate that strikes as a labour-related risk factor is regarded as more than highly important for manual worker enterprises, while it is regarded as of no importance for those enterprises employing mainly knowledge workers. It is also interesting to note that there were no differences in opinion between the respondents regarding this aspect as far as the knowledge

worker enterprises were concerned. In contrast, the responses for manual worker enterprises resulted in a range of 2 with a minimum value of 3 and a maximum value of 5. Closer analysis of the responses in this regard indicates that the minimum value of 3, which reflects moderate importance, was only chosen by three of the 23 respondents, while the majority rated it as being of high or extreme importance.

Application of the sign test where all of the observations are below the diagonal line, results in rejection of the null hypothesis, indicating that the differences between the paired observations are significant at the one per cent level. The conclusion can therefore be reached that the respondents were of the opinion that manual worker enterprises were more prone to labour-related risks associated with labour disruption as a result of employees temporarily withholding their labour. This does not mean that knowledge workers do not have this power, but merely that they do not rely on it as much as manual workers do to achieve their goals. In other words, they might also revert to strikes if alternative actions prove to be unsuccessful in achieving their goals in the labour relationship.

3) Staff turnover

The mean of 2,00 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises, compared to 4,26 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of knowledge worker enterprises, reflects the particular emphasis which the respondents placed on staff turnover as an important labour-related risk factor for knowledge worker enterprises when a preliminary opinion about the importance of labour-related risks for the operations of the enterprise is formulated.

As far as differences of opinion are concerned regarding the importance of staff turnover as a labour-related risk factor in knowledge and manual worker enterprises, it is interesting to note that 22 of the observations are above the diagonal line, one is on the line and none is below the diagonal line. Application of the sign test to these data results in rejection of the null hypothesis at the one per cent level. This indicates that institutional investors regarded staff turnover as a more important risk factor for knowledge worker enterprises than for manual worker enterprises when they formulated a preliminary opinion about the importance of labour-related risks for the operations of the enterprise. Knowledge workers may therefore express their dissatisfaction with the labour relationship through the permanent withdrawal of

their labour more often than manual workers do. This finding confirms the results obtained in respect of strikes, which indicated the general view that manual workers rely on the temporary withdrawal of their labour to express their dissatisfaction with the labour relationship more often than knowledge workers do. This phenomenon can be attributed to the surplus of manual workers in South Africa and the greater ability of knowledge workers to find alternative employment. The possibility may therefore exist that knowledge workers might also revert to strike action if alternative employment opportunities are not readily available.

4.3.3 Responses on aspects which have to be considered to formulate a preliminary opinion about the *relevance* of labour-related risks for the purpose of financial investment decision-making

The *relevance* of labour-related risks when a preliminary opinion is formulated for the purpose of financial investment decision-making becomes apparent when the anticipated payback period, marketability of the financial investment, and the incremental effect thereof on the labour-related risks inherent in the existing investment portfolio are considered. The views of the respondents in this regard are summarised in Table 4/20, which is followed by a discussion of the results.

TABLE 4/20: RESPONSES IN RESPECT OF ASPECTS WHICH HAVE TO BE CONSIDERED TO FORMULATE A PRELIMINARY OPINION ABOUT THE *RELEVANCE* OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

Labour-related risk factor	Manual workers	Knowledge workers	Sign test	
	Mean	Mean	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
Anticipated payback period	2,87	2,52	10/10/3	NS
Marketability of the investment	3,52	3,65	2/18/3	NS
Incremental effect on labour-related risks inherent in the existing investment portfolio	2,70	3,00	3/14/6	NS

Source: Question C3 of the discussion guideline.

4.3.3.1 Anticipated payback period

The responses regarding the importance of the anticipated payback period when institutional investors formulate a preliminary opinion about the relevance of the labour-related risks for the purpose of financial investment decision-making, resulted in a mean of 2,87 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises, which is slightly closer to moderately important than the mean of 2,52 (range of 3 with a minimum value of 1 and a maximum value of 4) for knowledge worker enterprises.

With three observations above the diagonal line, 10 on it and 10 below it, the sign test indicates that the differences between the paired observations are not significant. The null hypothesis is therefore not rejected, which implies that, for manual and knowledge worker enterprises, the respondents placed the same emphasis on the anticipated payback period of the financial investment when they formulated a preliminary opinion about the relevance of labour-related risks for the purpose of financial investment decision-making.

4.3.3.2 Marketability of the investment

The marketability of the investment is not regarded as highly important for either manual or knowledge worker enterprises. It is, however, rated slightly closer to highly important for knowledge worker enterprises than for manual worker enterprises. This is reflected by a mean of 3,52 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises, and of 3,65 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises.

The null hypothesis of the sign test is not rejected, which indicates that the respondents did not approach this aspect any differently for manual and for knowledge worker enterprises. Neither of these two types of enterprises can therefore rely more than the other on the marketability of its shares to make the labour-related risks inherent in their operations more acceptable to institutional investors.

4.3.3.3 Incremental effect on labour-related risks inherent in the existing investment portfolio

The mean of 3,00 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises is more important than the mean of 2,70 in respect of manual worker enterprises (range of 4 with a minimum value of 1 and a maximum value of 5).

The responses summarised in Table 4/20 indicate that 14 of the respondents regarded this factor as of equal importance for both types of enterprises, six of them were of the opinion that it is more important in the case of knowledge workers, while three respondents held an opposing view and regarded it as of more importance for manual worker enterprises. Application of the sign test indicates that the null hypothesis is not rejected and the differences between the paired observations in this regard therefore are not significant. None of these two types of enterprises can therefore rely more than the other on the incremental impact that an investment in them would have on the labour-related risks inherent in the existing investment portfolio.

4.3.4 Correlation as far as *manual* workers are concerned

In what follows, correlation in respect of manual worker enterprises that is significant at the five per cent level of significance is examined. In particular, the focus is on significant correlation amongst the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial investment decision-making and the general information obtained during the interviews, as well as with aspects relating to the decision-making process. The correlation between these aspects is highlighted in Section 4.3.4.1. Correlation amongst the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial decision-making is discussed in Section 4.3.4.2.

A similar approach is followed as far as correlation in respect of knowledge workers is concerned when it is examined in Section 4.3.5.

4.3.4.1 Correlation of the aspects relating to the formulation of a preliminary opinion on labour-related risks in *manual* worker enterprises for the purpose of financial investment decision-making with the general information obtained, as well as with the aspects relating to the financial investment decision-making process

The correlation among aspects that is significant at the five per cent level of significance is summarised in Table 4/21.

TABLE 4/21: CORRELATION OF ASPECTS RELATING TO THE FORMULATION OF A PRELIMINARY OPINION ON LABOUR-RELATED RISKS IN *MANUAL* WORKER ENTERPRISES FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING WITH THE GENERAL INFORMATION OBTAINED, AS WELL AS WITH THE ASPECTS RELATING TO THE DECISION-MAKING PROCESS

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-Level
Unionisation &				
• Total assets	23	0,467	2,418	0,025
• Total assets / Number of investment practitioners employed	23	0,539	2,936	0,008
• Use of investment reports prepared by external researchers	23	0,437	2,227	0,037
• Number of companies monitored / Number of investment practitioners employed	23	0,485	2,541	0,019
Years of experience of financial investment decision-making & One or more subsectors in the labour force which are of critical importance to the operations of the enterprise	23	0,488	2,559	0,018
Total assets & Strikes	23	0,431	2,187	0,040
Practice of doing independent research & Relative size of the labour force	23	-0,518	-2,778	0,011

Source: Responses to questions in sections A and B, and questions C2 and C3 of the discussion guideline, as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The first four cases of correlation in Table 4/21 are aspects in the general and financial investment decision-making process sections of the discussion guideline (sections A and B) that correlate with the importance of unionisation as a labour-related risk factor. The first of

these is the positive correlation between the size of the various long-term insurers' assets for which financial investment decisions were taken (reference is made to total assets with a correlation coefficient of 0,467 and p-value of 0,025, as well as to total assets per investment practitioner employed with a correlation coefficient of 0,539 and p-value of 0,008) and the importance of unionisation as a labour-related risk factor. Respondents responsible for the financial investment management of large sums of long-term insurance assets therefore rated unionisation as a more important labour-related risk factor than respondents who manage smaller sums of long-term insurance assets.

The third correlation highlights the positive correlation between the use by the respondents of investment reports prepared by external researchers and the importance of unionisation as a labour-related risk factor (correlation coefficient of 0,437 and p-value of 0,037). Trade unions, therefore, do not only have to prove the valuable role that they can play to large long-term insurers and their investment managers, but also to external researchers whose investment reports are used as a source of information when financial investment decisions are taken.

The fourth correlation in Table 4/21 highlights the positive correlation which exists between the number of companies monitored by each investment practitioner and the importance of unionisation as a labour-related risk factor (correlation coefficient of 0,485 and p-value of 0,019). This reflects an increasing sensitivity among investment managers for trade union-related issues as the number of companies they monitor increases. It is realistic to assume that the time available to investment practitioners to analyse each company decreases as the number of companies they monitor increases. The presence of trade unions at enterprises therefore becomes more of a "hassle" as investment managers are left with less time to concentrate on core issues that are vital to the existence of the enterprise.

Table 4/21 also focuses the attention on the positive correlation between the years of experience which the official (with whom the interview was conducted) had of financial investment decision-making, and the response regarding the significance of one or more subsectors in the labour force that were of critical importance to the operations of the enterprise (correlation coefficient of 0,488 and p-value of 0,018). This implies that the seasoned investment practitioners have learnt, during the years that they had been involved in financial investment decision-making, that manual worker labour forces should not be treated

as homogeneous groups. From this we learn that manual worker labour forces should not be treated as a commodity, because they might include subsectors which are of critical importance to the operations of the enterprise.

Evidence also exists that respondents responsible for managing large amounts of long-term insurance assets rated strikes as a more important labour-related risk factor than those who manage smaller sums of long-term insurance assets when a preliminary opinion is formulated about the importance of labour-related risks for the operations of the enterprise (correlation coefficient of 0,431 and p-value of 0,040). This does not come as a surprise, especially if cognisance is taken of the positive correlation between the size of the long-term assets under management and the importance of unionisation as a labour-related risk factor (refer to the first correlation in Table 4/21). Large long-term insurers may find it more difficult than small long-term insurers to avoid unionised enterprises and as a result focus closely on strike activity to distinguish between enterprises where differences between organised labour and the enterprise are settled amicably and those where organised labour reverts to strike action to demonstrate their bargaining power.

Lastly, a negative correlation is reported between the practice to do independent research and the respondents' views of the importance of the size of the labour force compared to the extent of the enterprise's total assets and operations (correlation coefficient of -0,518 and p-value of 0,011). The respondents therefore tended to put less emphasis on the relative size of the labour force as a labour-related risk factor as more independent research was done by them. This implies that the respondents who were unwilling or did not have the resources to do a detailed analysis of labour-related risks in manual worker enterprises were more sensitive to the relative size of the labour force as a labour-related risk factor.

4.3.4.2 Correlation amongst the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial investment decision-making in *manual* worker enterprises

The focus in this section is on significant correlation between the habit of formulating a preliminary opinion on labour-related risks and the *importance* of the main labour-related risk factors that impact on the operations of the enterprise, as well as key aspects to be considered in order to determine the *relevance* of labour-related risks for the purpose of financial

investment decision-making. In addition, the investigation focuses on significant correlation between each main/key labour-related risk factor and its components. In other words, possible significant correlation between the components of a main labour-related risk factor (such as labour intensity), and the correlation of these aspects with the components of another main labour-related risk factor (such as labour stability), was not investigated. This decision was taken because further refinement of the investigation would not add value to the study due to the large number of labour-related risk factors in the discussion guideline. A similar approach was followed in respect of knowledge workers who receive the necessary attention once the correlation between aspects relating to manual workers has been discussed.

Significant correlation at the five per cent level of significance amongst aspects relating to the formulation of a preliminary opinion on labour-related aspects in manual worker enterprises is summarised in Table 4/22.

TABLE 4/22: SUMMARY OF SIGNIFICANT CORRELATION AMONGST THE ASPECTS RELATING TO THE FORMULATION OF A PRELIMINARY OPINION ON LABOUR-RELATED RISKS IN *MANUAL* WORKER ENTERPRISES FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Habit of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of certain key labour-related risk factors &				
• Labour intensity	23	0,560	3,095	0,005
• Labour stability	23	0,508	2,701	0,013
Labour intensity &				
• Relative size of the labour force	23	0,527	2,839	0,010
• Unionisation	23	0,511	2,727	0,013
• Capital intensity	23	0,487	2,558	0,018
Labour stability & Strikes	23	0,746	5,127	4,44E-05
Marketability of the investment & Incremental effect on labour-related risks inherent in the existing investment portfolio	23	0,507	2,699	0,013

Source: Responses to questions C1 to C3 of the discussion guideline.

The first two correlations in Table 4/22 refer to the labour-related risk factors that usually receive the special attention of respondents who are in the habit of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of certain key labour-related risk factors. Both labour intensity (correlation coefficient of 0,560 and p-value of 0,005) and labour stability (correlation coefficient of 0,508 and p-value of 0,013) were rated as important labour-related risk factors by respondents who were in the habit of formulating an intuitive preliminary opinion on labour-related risks for the purpose of financial investment decision-making. Sufficient evidence therefore exists to indicate that respondents who often formulated a preliminary opinion in this regard paid particular attention to the key labour-related aspects that were of importance to the operations of the enterprise.

With the results of the preceding paragraph in mind, it is important to focus on the significant correlation between the importance of labour intensity and its components in the second section of Table 4/22. The first of these is the positive correlation between the importance of labour intensity and the importance of the size of the labour force in comparison with the extent of the enterprise's total assets and operations (correlation coefficient of 0,527 and p-value of 0,010). Staff numbers and total assets are visible and easily quantifiable, which explains why the respondents paid attention to this aspect when the labour intensity of an enterprise was judged. Labour intensity comprises more than the mere relative size of the labour force and it therefore does not come as a surprise that it is also correlated with unionisation (correlation coefficient of 0,511 and p-value of 0,013) and capital intensity (correlation coefficient of 0,487 and p-value of 0,018). The positive correlation between the importance of labour intensity and the importance of unionisation reflects the belief among respondents that the bargaining power of labour increases when they get organised. Unionisation must therefore be considered in addition to the mere relative number of employees when the labour intensity of an enterprise is assessed. The positive correlation between the importance of labour intensity and the importance of capital intensity reflects the leverage effect which capital investments have on the importance of each employee for the enterprise. This implies that the replacement of manual workers by capital investments does not necessarily reduce the labour-related risks of an enterprise. It is therefore incorrect to assume that labour is in all cases replaced by capital to reduce labour-related risks. Such a substitution might become unavoidable when employees (irrespective of how loyal and committed they are) are unable to compete with the productive gains which are available

through the investment in technologically advanced equipment, especially if the affected employees have nothing else to offer the enterprise. The increasing importance of the labour intensity as capital intensity increases also focuses attention on the valuable role which manual employees perform in the enterprise. Capital intensity would not have been able to increase the importance of labour intensity in manual worker enterprises if manual employees could be regarded as a dispensable commodity that could easily be replaced. Indirectly, this provides proof of the view among the respondents that manual employees should be treated as a valuable human resource and not as a commodity.

The importance of labour stability in manual worker enterprises is positively correlated with the importance of strikes (correlation coefficient of 0,746 and p-value of 4,44E-05 as indicated in Table 4/22). The importance of labour stability therefore increases as the incidence of strikes increases.

The last correlation in the table is the positive correlation between the importance of the marketability of the investment and the importance of the incremental effect of the investment on labour-related risks inherent in the existing investment portfolio (correlation coefficient of 0,507 and p-value of 0,013). The positive correlation between these two variables means that respondents who emphasised the marketability of an investment also stressed the importance of portfolio considerations when labour-related risks were assessed. This correlation can be explained by the importance of the marketability of an investment in making adjustments to the investment portfolio.

4.3.5 Correlation as far as *knowledge* workers are concerned

In what follows, correlation in respect of knowledge workers that is significant at the five per cent level receives the necessary attention. In particular, the focus is on significant correlation between the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial investment decision-making and the general information obtained during the interviews, as well as with the aspects relating to the decision-making process. The correlation between these aspects is highlighted in Section 4.3.5.1 hereunder. Correlation amongst aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial decision-making is discussed in Section 4.3.5.2.

4.3.5.1 Correlation of the aspects relating to the formulation of a preliminary opinion on labour-related risks in *knowledge* worker enterprises for the purpose of financial investment decision-making with the general information obtained, as well as with the aspects relating to the financial investment decision-making process

The correlation that is significant at the five per cent level, is stated in Table 4/23.

TABLE 4/23: CORRELATION OF THE ASPECTS RELATING TO THE FORMULATION OF A PRELIMINARY OPINION ON LABOUR-RELATED RISKS IN *KNOWLEDGE* WORKER ENTERPRISES FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING WITH THE GENERAL INFORMATION OBTAINED, AS WELL AS WITH THE ASPECTS RELATING TO THE DECISION-MAKING PROCESS

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Use of investment reports prepared by external researchers & Marketability of the investment	23	-0,458	-2,360	0,028

Source: Responses to questions in sections A and B, and questions C2 and C3 of the discussion guideline, as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The comparison of the aspects relating to the formulation of a preliminary opinion on labour-related risks with the general information obtained during the interviews as well as with the aspects relating to the decision-making process, yielded only one significant correlation. This refers to the negative correlation between the practice of making use of investment reports prepared by external researchers and the importance of the marketability of the investment in formulating a preliminary opinion on the relevance of labour-related risks for the purpose of financial investment decision-making (correlation coefficient of -0,458 and p-value of 0,028). Evidence therefore exists that the marketability of the investment becomes less important as a labour-related risk factor as institutional investors get confirmation from externally prepared investment reports that the enterprise under consideration shows much investment potential. This implies that there was a willingness among some of the respondents to accept a certain degree of knowledge worker related risk as long as agreement existed in the investment community about the investment merit of the enterprise. Although this approach has merit, it is important to note that it contains possible elements of a herd mentality.

4.3.5.2 Correlation amongst the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial investment decision-making in *knowledge* worker enterprises

Correlations that are significant at the five per cent level, are summarised in Table 4/24 below.

TABLE 4/24: SUMMARY OF SIGNIFICANT CORRELATION AMONGST THE ASPECTS RELATING TO THE FORMULATION OF A PRELIMINARY OPINION ON LABOUR-RELATED RISKS IN *KNOWLEDGE* WORKER ENTERPRISES FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

Description	Number	Spearman's rank-order Coefficient	Student t (n-2)	Probability-level
Habit of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of certain key labour-related risk factors &				
• Labour intensity	23	0,424	2,146	0,044
• Incremental effect on labour-related risks inherent in the existing investment portfolio	23	0,460	2,375	0,027
Labour intensity &				
• Relative size of the labour force	23	0,576	3,232	0,004
• The labour force's relative share of the annual value	23	0,583	3,290	0,003
• One or more subsectors in the labour force that are of critical importance to the operations of the enterprise	23	0,561	3,108	0,005
• Capital intensity	23	0,678	4,224	3,8E-04
• Capital structure	23	0,445	2,277	0,033
Labour stability &				
Staff turnover	23	0,732	4,928	7,1E-05

Source: Responses to questions C1 to C3 of the discussion guideline.

The first two correlations in Table 4/24 refer to the labour-related risk factors that usually received the special attention of respondents who were in the habit of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of certain key labour-related risk factors. Labour intensity (correlation coefficient of 0,424 and p-value of 0,044) is the first of these two labour-related risk factors and the correlation indicates that respondents who are in the habit of formulating

a preliminary opinion on intuitive grounds, view labour intensity as an important factor to be considered.

The incremental effect of an investment on the labour-related risks inherent in the existing investment portfolio (correlation coefficient of 0,460 and p-value of 0,027) is the second labour-related risk factor that was rated as more important by respondents who often formulated a preliminary opinion, when compared to the importance rating attached by respondents who formulated a preliminary opinion less often. The portfolio impact of labour-related risks has to be considered in order to determine the relevance of labour-related risks for the purpose of financial investment decision-making. Respondents who more often formulate such an opinion therefore also focus on the portfolio effect of an investment opportunity.

The second group in Table 4/24 provides a summary of significant correlation between the importance of labour intensity and the importance of its components. The importance of the size of the labour force in comparison to the extent of the enterprise's total assets and operations (correlation coefficient of 0,576 and p-value of 0,004), and the importance of the labour force's relative share of the annual value which has been created in the enterprise (correlation coefficient of 0,583 and p-value of 0,003), are more or less evenly correlated with the importance of labour intensity. Evidence therefore exists that the aspects which reflect obvious labour intensity, increase in importance as the respondents rate labour intensity as of more importance.

The other three labour-related risk factors (which are also components of labour intensity) that correlate significantly in importance with the importance of labour intensity, concern whether one or more subsectors in the labour force are of critical importance to the operations of the enterprise (correlation coefficient of 0,561 and p-value of 0,005), capital intensity (correlation coefficient of 0,678 and p-value of 3,8E-04), and capital structure (correlation coefficient of 0,445 and p-value of 0,033). These aspects may have an impact on the bargaining power of the labour force and are therefore able to add leverage to the importance of labour intensity for the operations of the enterprise.

The positive correlation between the importance of labour stability and staff turnover (correlation coefficient of 0,732 and p-value of 7,1E-05) is the last correlation which is

reported in Table 4/24. It indicates that the importance of labour stability in knowledge worker enterprises is closely correlated with the importance of the permanent withdrawal of labour by employees by way of staff turnover.

4.4 Information relating to aspects that are considered when a detailed study of labour-related risks is undertaken for the purpose of financial investment decision-making on long-term insurance assets

During the literature study it was mentioned that a detailed study of labour-related risks for the purpose of financial investment decision-making requires an investigation of the external environment as it affects labour relations at the enterprise, after which company-specific labour-related risk factors have to be analysed. The external environmental labour-related risk factors that have to be considered include the political, economic, social and technological environments relevant to the particular enterprise. Company-specific labour-related risk factors which require attention include the track record of labour relations, the legal framework in which labour relations are practised, the existence of behavioural agreements between the company and the labour force, the existence of sound labour relations practices at the enterprise, contingent liabilities of the enterprise in respect of the labour force, the availability of adequate labour resources to meet the future labour requirements of the enterprise, and an assessment of how the enterprise and the labour force view each other.

The views of the participating institutions regarding these aspects will now be reported. Their responses regarding the importance of external environmental labour-related risk factors are reported in Section 4.4.1, after which their views on company-specific labour-related risk factors receive attention in Section 4.4.2. The responses in respect of labour-related risks in manual and knowledge worker enterprises are presented simultaneously in both these sections. Significant similarities and differences of opinion in this regard are highlighted at the same time. Correlation between these aspects is reported and discussed at the end of each of the two sections.

4.4.1 The external environment

The external environment includes the political, economic, social and technological environments. The views of the respondents regarding the importance of external environmental labour-related risk factors for the purpose of financial investment decision-making in manual and knowledge worker enterprises are reported hereunder. Immediately afterwards, significant correlation amongst these labour-related aspects is discussed for manual and knowledge worker enterprises.

4.4.1.1 External environmental labour-related risk factors

The views of the respondents regarding the importance of external environmental labour-related risk factors are summarised in Table 4/25. As in the case of the responses regarding the formulation of a preliminary opinion on labour-related risks, the range of opinions will be reported, but only commented on if the difference in the range for manual and knowledge worker enterprises is in excess of one.

TABLE 4/25: RESPONSES WITH REGARD TO THE *IMPORTANCE* OF EXTERNAL ENVIRONMENTAL LABOUR-RELATED RISK FACTORS WHEN A DETAILED STUDY OF THE RISKS IS UNDERTAKEN FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

Labour-related risk factor	Manual workers	Knowledge workers	Sign test	
	Mean	Mean	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
External environmental labour-related risk factors	3,96	2,87	19/4/0	S (1%)
Political environment	3,57	2,70	16/3/4	S (1%)
Political stability	3,74	3,00	15/3/5	S (5%)
Distribution of political power	3,13	2,39	16/4/3	S (1%)
Labour market policy	3,70	2,00	20/3/0	S (1%)
Economic environment	3,78	2,83	20/3/0	S (1%)
Business cycle	3,74	2,83	17/5/1	S (1%)
Level and trend in unemployment	3,65	2,26	18/4/1	S (1%)
Inflation	3,48	2,43	16/6/1	S (1%)
Global business environment	3,35	3,35	9/8/6	NS
Social environment	3,22	2,35	18/5/0	S (1%)
Different cultural values	3,48	1,65	22/1/0	S (1%)
Demographic characteristics and trends	3,13	1,83	18/5/0	S (1%)
Skills and education of the population	3,09	4,00	0/10/13	S (1%)
Technological environment	3,57	2,61	16/6/1	S (1%)
Impact of technological change on employment, production processes and the obsolescence of skills	3,83	2,57	19/3/1	S (1%)
Extent and manner of co-operation between management and the labour force when they deal with technological change	3,48	2,70	13/8/2	S (1%)

Source: The statistical calculations were based on responses to questions C4 and C5 of the discussion guideline.

1) External environmental labour-related risk factors in general

The mean of 3,96 (range of 2 with a minimum value of 3 and a maximum value of 5) indicates that external environmental risk factors are close to highly important in the case of manual worker enterprises, while it comes close to being regarded as moderately important

for knowledge worker enterprises as reflected by a mean of 2,87 (range of 2 with a minimum value of 2 and a maximum value of 4).

Scrutiny of the individual responses discloses that none of the respondents rated external environmental risk factors as of more importance for knowledge worker enterprises than for manual worker enterprises, four rated it as of equal importance, while 19 indicated it to be of more importance for manual worker enterprises. Application of the sign test results in the rejection of the null hypothesis at the one per cent level of significance. The importance of external environmental labour-related risk factors for the purpose of financial investment decision-making are therefore not the same for these two types of enterprises. Evidence exists that the respondents were of the opinion that the external environmental factors were of more importance for manual than for knowledge worker enterprises.

These results imply that the investors of long-term insurance assets placed much emphasis on external environmental risk factors when they considered financial investments in manual worker enterprises, while the external environment was of less importance when knowledge worker enterprises were considered.

2) Political environment

The respondents generally were of the opinion that the political environment was more important for manual than for knowledge worker enterprises. The mean of 3,57 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of manual worker enterprises and 2,70 (range of 3 with a minimum value of 1 and a maximum value of 4) for knowledge worker enterprises provide proof of this statement.

An investigation of the individual responses brings to light that only four of the respondents regarded the political environment as a more important risk factor for knowledge worker enterprises than for manual worker enterprises, while three of them regarded it as of equal importance. The majority of the respondents (16 of the 23) were of the opinion that the political environment was more important for manual than for knowledge worker enterprises. Application of the sign test shows, that the null hypothesis is rejected at the one per cent level of significance, which implies that the respondents regarded the political environment as a more important labour-related risk factor for manual than for knowledge worker enterprises.

The same political environment therefore has a significantly different impact on these two types of enterprises. The respondents were of the opinion that the political role players in South Africa had much work to do to reduce perceived labour-related risks attached to manual worker enterprises especially.

Consideration of the views of the respondents on the importance of the components of the political environment is valuable for clarifying which areas were of particular importance to them. It also enables political role players to identify key areas that require their attention to make South African enterprises more attractive to institutional investors. In what follows, the opinions of the respondents regarding the importance of the components of the political environment will be examined.

Political stability

Political stability was regarded as more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,74 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises compared to a mean of 3,00 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises.

When the emphasis is shifted from the general view to the responses of the individual participants, it is interesting to note that five of the respondents were of the opinion that political stability was a more important risk factor for knowledge than for manual worker enterprises, three regarded it as of the same importance, while 15 emphasised that it was of more importance for manual worker enterprises. The null hypothesis is rejected at the five per cent level of significance and political stability should therefore be regarded as of greater importance for manual than for knowledge worker enterprises.

Distribution of political power

The average respondent regarded the distribution of political power as more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,13 (range of 4 with a minimum value of 1 and a maximum value of 5) for the former type of enterprise

and a mean of 2,39 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises.

An analysis of the individual responses shows that only three of the respondents were of the opinion that the distribution of political power was a more important risk factor for knowledge worker enterprises than for manual worker enterprises, while 16 of the respondents held an opposing view. Four of the respondents indicated that the importance of this risk factor was the same for both types of enterprises. By the rejection of the null hypothesis, the sign test confirms that the difference in opinions regarding these two types of enterprises is significant at the one per cent level of significance, therefore the distribution of political power can be regarded as a more important labour-related risk factor for manual than for knowledge worker enterprises.

Labour market policy

On average, the respondents were of the opinion that labour market policy was a far more important labour-related risk factor for manual than for knowledge worker enterprises. The mean of 3,70 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of manual worker enterprises and the mean of 2,00 (range of 2 with a minimum value of 1 and a maximum value of 3) when knowledge worker enterprises are the subject of assessment, is a reflection of this fact.

The general view on the importance of this component of the political environment also exists on the individual level, as confirmed by the sign test that indicates, by the rejection of the null hypothesis, that the difference in opinions in this regard is significant at the one per cent level. To be more specific, 20 of the respondents were convinced that labour market policy was a more important labour-related risk for manual than for knowledge worker enterprises, with no views to the contrary, and only three respondents indicating that it was of the same importance for both types of enterprises. The conclusive evidence highlights the perceived role which labour market policy plays in increasing the risk profile of manual worker enterprises.

3) Economic environment

The respondents generally were of the opinion that the economic environment was more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,78 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises compared to a mean of 2,83 (range of 3 with a minimum value of 1 and a maximum value of 4) in the case of knowledge worker enterprises.

Closer analysis of the responses indicates that 20 of the respondents maintained that the economic environment was a more important labour-related risk factor for manual than for knowledge worker enterprises, three were of the opinion that it was of the same importance, while none of them regarded it as of more importance for knowledge worker enterprises. Application of the sign test indicates that these differences are significant at the one per cent level, therefore the conclusion can be reached that the economic environment is regarded as a more important labour-related risk factor for manual than for knowledge worker enterprises.

These results make it clear that the participating investors paid close attention to the economic environment when they considered financial investments in manual worker enterprises. Scrutiny of the responses in respect of the components of the economic environment is valuable for a better understanding of how the economic environment impacts on financial investment decision-making.

Business cycle

The business cycle is generally regarded as more important for manual than for knowledge worker enterprises as reflected by a mean of 3,74 (range of 3 with a minimum value of 2 and a maximum value of 5) for the former type of enterprise and a mean of 2,83 (range of 4 with a minimum value of 1 and a maximum value of 5) for the latter type of enterprise.

The higher importance of the business cycle as a labour-related risk factor for manual than for knowledge worker enterprises was supported by 17 respondents, with one response to the contrary and five who were of the opinion that this aspect was of equal importance for both types of enterprises. By rejecting the null hypothesis, the sign test indicates that these differences are significant at the one per cent level, therefore it can be concluded that the

business cycle is a more important labour-related risk factor for manual than for knowledge worker enterprises.

Level and trend in unemployment

The mean of 3,65 (range of 4 with a minimum value of 1 and a maximum value of 5) indicates that the level and trend in unemployment is perceived as approaching highly important for manual worker enterprises. In the case of knowledge worker enterprises, it is regarded as slightly more than of little importance, as highlighted by the mean of 2,26 (range of 4 with a minimum value of 1 and a maximum value of 5).

The importance of the level and trend in unemployment also becomes apparent when the opinions of the individual respondents are analysed. Eighteen of the respondents were convinced that it was a more important labour-related risk factor for manual than for knowledge worker enterprises, four were of the opinion that it was of similar importance, while only one felt that it was more important for knowledge worker enterprises. According to the sign test that rejected the null hypothesis, these differences are significant at the one per cent level, and it can therefore be concluded that the level and trend in unemployment is of greater importance for manual worker than for knowledge worker enterprises.

Inflation

Inflation is another component of the economic environment that was regarded as more important for manual than for knowledge worker enterprises. The mean of 3,48 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of manual worker enterprises and 2,43 (range of 3 with a minimum value of 1 and a maximum value of 4) for knowledge worker enterprises provide proof of this statement.

This result is repeated on the individual level where 16 of the respondents mentioned that manual worker enterprises especially were exposed to this labour-related risk factor compared to only one respondent who held an opposing view. Six of the respondents indicated that inflation was of similar importance for both types of enterprises. The sign test highlights that these differences are significant at the one per cent level by rejecting the null

hypothesis, and therefore sufficient evidence exists to conclude that inflation is regarded as a more important labour-related risk for manual than for knowledge worker enterprises.

Global business environment

On average, the respondents were of the opinion that the global business environment as a labour-related risk factor was of the same importance for both manual and knowledge worker enterprises (mean of 3,35 and a range of 3 with a minimum value of 2 and a maximum value of 5 in both cases).

An analysis of the individual responses indicates that nine of the respondents were of the opinion that the global business environment was a more important labour-related risk factor for manual than for knowledge worker enterprises, while six respondents indicated that it was the other way round. Eight of the respondents mentioned that it was of equal importance for both types of enterprises. According to the sign test these differences are not significant, therefore the global business environment can be regarded as of equal importance for both manual and knowledge worker enterprises.

4) Social environment

The social environment was regarded as more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,22 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises compared to a mean of 2,35 (range of 3 with a minimum value of 1 and a maximum value of 4) in the case of knowledge worker enterprises.

The majority of the respondents were convinced that the social environment was a more important labour-related risk factor for manual than for knowledge worker enterprises. Eighteen of the respondents indicated that this was the case, while the remaining five mentioned that it was of the same importance for both types of enterprises. Application of the sign test confirms, by rejecting the null hypothesis, that these differences are significant at the one per cent level of significance. It is therefore realistic to conclude that the social environment is more important for manual than for knowledge worker enterprises.

The perceived impact of the social environment, especially on manual worker enterprises, was highlighted in the preceding paragraphs. The respondents were of the opinion that the perceptions which manual workers brought to the workplace and the impact thereof on the employment relationship, was of particular importance when companies were assessed for the purpose of financial investment decision-making. It also indicated a concern among the respondents that the perceptions of manual workers, who were established in their subsocieties, might be in conflict with the values of their employers. The respondents were of the opinion that this was less of a problem in knowledge worker enterprises. With the above-mentioned as background information, it is necessary to focus on the importance that respondents ascribed to the various components of the social environment as labour-related risk factors.

Different cultural values

The respondents generally regarded different cultural values as much more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,48 in the case of manual worker enterprises, which is more than moderately important, compared to a mean of 1,65 for knowledge worker enterprises, which is short of being of little importance. The range of opinions in the case of manual worker enterprises (range of 4 with a minimum value of 1 and a maximum value of 5) exceeds the range of opinions regarding knowledge worker enterprises (range of 2 with a minimum value of 1 and a maximum value of 3), which indicates that the respondents showed a greater range of opinions with regard to the importance of this labour-related risk factor for manual than for knowledge worker enterprises.

An analysis of the responses obtained indicates that none of the respondents regarded this risk factor as of more importance for knowledge than for manual worker enterprises. Twenty-two of the respondents were convinced that it was of more importance for manual than for knowledge worker enterprises, whilst one of the respondents regarded it as of equal importance for both types of enterprises. Application of the sign test indicates that these differences are significant at the one per cent level. Different cultural values are therefore perceived as of more importance for manual than for knowledge worker enterprises.

Demographic characteristics and trends

The mean of 3,13 for manual worker enterprises and 1,83 in the case of knowledge worker enterprises indicates that demographic characteristics and trends are generally perceived as more important for manual than for knowledge worker enterprises. The range of 4 (minimum value of 1 and maximum value of 5) in the case of manual worker enterprises and a range of 2 (minimum value of 1 and maximum value of 3) for knowledge worker enterprises highlights that there was less agreement among the respondents regarding this labour-related risk factor when manual workers are involved than in the case of enterprises employing mainly knowledge workers.

An analysis of the individual responses brings to light that 18 of the 23 respondents regarded this aspect as of more importance for manual than for knowledge worker enterprises. Not one of the respondents held a contrary view, while five respondents regarded demographic characteristics and trends as of equal importance for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level by rejecting the null hypothesis. It can therefore be concluded that demographic characteristics and trends are perceived to be a more important labour-related risk factor for manual than for knowledge worker enterprises.

Skills and education of the population

The mean of 4,00 (range of 4 with a minimum value of 1 and a maximum value of 5) indicates that the skills and education of the population are regarded as highly important for knowledge worker enterprises. The mean of 3,09 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises shows that it is regarded as somewhat more than moderately important for these enterprises.

Thirteen of the respondents stated that this aspect was of more importance for knowledge than for manual worker enterprises, 10 were of the opinion that it was of equal importance, while none of the respondents regarded it as more important for manual than for knowledge worker enterprises. These differences are significant at the one per cent level, and by rejecting the null hypothesis, the conclusion can therefore be reached that the skills and

education of the population are a more important labour-related risk factor for knowledge than for manual worker enterprises.

These results point to the concern among the respondents that the future supply of skilled workers might be inadequate to meet the demand for skills and education especially in knowledge worker enterprises. Shortages in this regard will tend to limit the growth potential of these enterprises and the increasing burden on those with skills might have a negative impact on their motivation and/or lead to excessive remuneration for them. This may tend to increase the risk profile of knowledge worker enterprises, unless they can rely on alternative external sources of skilled employees.

5) Technological environment

The mean of 3,57 (range of 3 with a minimum value of 2 and a maximum value of 5) is an indication that the technological environment is a more important labour-related risk factor for manual worker enterprises than for knowledge worker enterprises (a mean of 2,61 and a range of 4 with a minimum value of 1 and a maximum value of 5).

Sixteen of the respondents indicated that the technological environment was a more important labour-related risk factor for manual than for knowledge worker enterprises, while only one had an opposing view. Six respondents mentioned that it was of the same importance for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level and the null hypothesis is rejected. The technological environment is therefore regarded as a more important labour-related risk factor for manual than for knowledge worker enterprises. Attention is paid to the importance of the components of the technological environment in the following paragraphs.

Impact of technological change on employment, production processes and the obsolescence of skills

The respondents generally were of the opinion that this labour-related risk factor was more important for manual than for knowledge worker enterprises. This is highlighted by the mean of 3,83 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker

enterprises and the mean of 2,57 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises.

The particular importance of this labour-related risk for manual worker enterprises was also obvious when the responses were analysed. Nineteen of the respondents were convinced that it was more important for manual than for knowledge worker enterprises, while only one had an opposing view, and three mentioned that it was of the same importance for both types of enterprises. Application of the sign test points to the significance of these differences by rejecting the null hypothesis and therefore should it be regarded as a more important labour-related risk factor for manual than for knowledge worker enterprises.

Extent and manner of co-operation between management and the labour force when they deal with technological change

The extent and manner of co-operation between management and the labour force when they deal with technological change is more important for manual than for knowledge worker enterprises. This is reflected by the mean of 3,48 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises and 2,70 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises.

The views of each of the respondents regarding the importance of this labour-related risk factor for the two types of enterprises also points to the significance of this aspect for manual worker enterprises in particular. Thirteen of the respondents maintained this view, eight respondents mentioned that it was equally important for both types of enterprises, while only two felt that it was a more important labour-related risk factor for knowledge than for manual worker enterprises. According to the sign test, these differences are significant at the one per cent level and the null hypothesis is rejected.

4.4.1.2 Correlation as far as the external environmental labour-related risk factors of *manual* workers are concerned

In what follows, correlation in respect of manual workers that is significant at the five per cent level is investigated. In particular, the focus is on significant correlation between the external environmental labour-related risk factors and the general information obtained, as

well as with the aspects relating to the financial investment decision-making process. The correlation between these aspects is highlighted in the first subsection below. Correlation between the various aspects relating to the external environmental labour-related risk factors is discussed in the second subsection hereunder. Thereafter correlation in respect of knowledge workers is examined.

1) Correlation of the external environmental labour-related risk factors with the general information obtained, as well as with the aspects relating to the financial investment decision-making process

No significant correlation exists between the external environmental labour-related risk factors and the general information obtained regarding manual worker enterprises. Similarly, none of the external environmental labour-related risk factors is significantly correlated with any of the aspects relating to the financial investment decision-making process. The answers regarding the importance of external environmental labour-related risk factors therefore did not differ significantly, irrespective of the distinguishing characteristics of the respondents or the particular financial investment decision-making process to which they adhered.

2) Correlation amongst the external environmental labour-related risk factors

The investigation focused on significant correlation between the importance attached to external environmental labour-related risk factors in general and the importance of each main/key labour-related risk factor regarding manual worker enterprises. In addition, the investigation targeted significant correlation between each main/key labour-related risk factor and its components. In other words, possible significant correlation between the components of a main labour-related risk factor (such as the political environment), as well as the correlation of these aspects with the components of another main labour-related risk factor (such as the economic environment), was not investigated. This decision was taken because further refinement of the investigation would not add value to the study due to the large number of labour-related risk factors in the discussion guideline.

The significant correlation in this regard is summarised in Table 4/26.

TABLE 4/26: SUMMARY OF SIGNIFICANT CORRELATION AMONGST THE EXTERNAL ENVIRONMENTAL LABOUR-RELATED RISK FACTORS AS FAR AS *MANUAL* WORKER ENTERPRISES ARE CONCERNED

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Political environment & Political stability	23	0,726	4,831	8,93E-05
Economic environment &				
• Business cycle	23	0,812	6,372	2,57E-06
• Level and trend in unemployment	23	0,618	3,600	0,002
• Global business environment	23	0,555	3,059	0,006
Social environment &				
• Different cultural values	23	0,849	7,364	3,03E-07
• Demographic characteristics and trends	23	0,860	7,738	1,4E-07
• Skills and education of the population	23	0,582	3,278	0,004
Technological environment &				
• Impact of technological change on employment, production processes and the obsolescence of skills	23	0,795	6,001	5,89E-06
• Extent and manner of co-operation between management and the labour force when they deal with technological change	23	0,722	4,780	1,01E-04

Source: Responses to questions C4 and C5 of the discussion guideline.

The first correlation in the above table refers to the positive correlation between the importance of the political environment and the importance of political stability (correlation coefficient of 0,726 and p-value of 8,93E-05). Respondents who placed a lot of emphasis on the importance of the political environment paid significantly more attention to political stability than those who were of the opinion that the political environment was not such an important labour-related risk factor.

The importance of the business cycle (correlation coefficient of 0,812 and p-value of 2,57E-06), level and trend in unemployment (correlation coefficient of 0,618 and p-value of 0,002), and the global business environment (correlation coefficient of 0,555 and p-value of 0,006) are all positively correlated with the level of importance placed by the respondents on the economic environment as a labour-related risk factor. The positive correlation of the importance of the economic environment with both the importance of the business cycle and

the level and trend in unemployment, could be expected, as the business cycle and the level and trend in unemployment both have an important impact on the local economic environment. The strong correlation of the importance of the economic environment with the importance of the global business environment indicates the influence which the global business environment has on the local economic environment.

The importance of the social environment as a labour-related risk factor is positively correlated with the importance placed by the respondents on its components as labour-related risk factors. To be specific, the importance of different cultural values (correlation coefficient of 0,849 and p-value of 3,03E-07), demographic characteristics and trends (correlation coefficient of 0,860 and p-value of 1,4E-07), and the skills and education of the population (correlation coefficient of 0,582 and p-value of 0,004) are all positively correlated with the importance of the social environment. The positive correlation between importance in the social environment and different cultural values reflects the reality of a multi-cultural society in South Africa, and its perceived impact on the employment relationship. These different cultural values have the potential to lead to conflict unless they are properly managed. The positive correlation between the social environment and the demographic make-up of the country, indicates that, as the respondents emphasised the importance of the social environment as a labour-related risk factor, more concern may be expressed about the social burden on the economy as a result of an oversupply of labour in quantitative terms. The positive correlation between the social environment and the skills and education of the population indicates that the respondents who emphasised the importance of the former risk factor also paid particular attention to the shortage of skilled and entrepreneurial workers in South Africa and to whether enough was and could be done by the enterprise under consideration to overcome these obstacles.

The importance of the technological environment as a labour-related risk factor is positively correlated with how important the respondents perceived the impact which technological change has on employment, production processes and the obsolescence of skills (correlation coefficient of 0,795 and p-value of 5,89E-06) to be. This implies that the respondents who stressed the importance of the technological environment as a labour-related risk factor were concerned that a significant number of manual workers might in future become redundant as a result of technological advances that required different skills in different locations. The importance of the technological environment is also positively correlated with how important

the respondents regarded the extent and manner of co-operation between management and the labour force to be when they dealt with technological change (correlation coefficient of 0,722 and p-value of 1,01E-04). In effect, these respondents disclosed that, as technological change cannot be stopped, enterprises and employees should rather co-operate to deal with it than try and prevent it.

4.4.1.3 Correlation as far as the external environmental labour-related risk factors of *knowledge* workers are concerned

In what follows, correlation in respect of knowledge workers that is significant at the five per cent level is examined. In particular, the focus is on significant correlation between the aspects relating to the external environmental labour-related risk factors and the general information obtained, as well as with the aspects relating to the financial investment decision-making process. The correlation between these aspects is highlighted in the first subsection that follows. Correlation between the various aspects relating to the external environmental labour-related risk factors is discussed in the second subsection.

1) Correlation of the external environmental labour-related risk factors with the general information obtained, as well as with the aspects relating to the financial investment decision-making process

The significant correlation between these aspects is summarised in Table 4/27.

TABLE 4/27: CORRELATION OF THE EXTERNAL ENVIRONMENTAL LABOUR-RELATED RISK FACTORS WITH THE GENERAL INFORMATION OBTAINED, AS WELL AS WITH THE ASPECTS RELATING TO THE FINANCIAL INVESTMENT DECISION-MAKING PROCESS AS FAR AS *KNOWLEDGE* WORKER ENTERPRISES ARE CONCERNED

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Years of experience of financial investment decision-making &				
• Political stability	23	0,507	2,695	0,014
• Distribution of political power	23	0,446	2,281	0,033
Total assets / Number of investment practitioners employed & Technological environment	23	0,428	2,172	0,041
Use of investment reports prepared by external researchers & Inflation	23	-0,591	-3,358	0,003

Source: Responses to questions in sections A and B, and question C5 of the discussion guideline, as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The first two correlations in Table 4/27 refer only to the external labour-related risk factors that are significantly correlated with the respondents' number of years of experience in financial investment decision-making. The first of these highlights the significantly positive correlation between the number of years' experience of financial investment decision-making and the importance of political stability as a labour-related risk factor (correlation coefficient of 0,507 and p-value of 0,014). The experienced respondents were particularly aware of the importance of political stability as a labour-related risk factor, because they had been exposed to the negative impact of unstable political conditions on knowledge worker enterprises for a longer period. The difficulties that knowledge worker enterprises experienced in attracting and retaining sufficient numbers of knowledge workers under unstable political conditions had possibly made a far more lasting impression on respondents with a lot of investment experience than on those with less experience. The second correlation refers to the positive correlation between the number of years' experience of financial investment decision-making and how important the respondents regarded the distribution of political power to be as a labour-related risk factor (correlation coefficient of 0,446 and p-value of 0,033). This implies that respondents with a lot of investment experience were far more concerned than their less experienced colleagues about the importance of the distribution of political power with regard to knowledge workers when it came to providing a stable working environment.

The next correlation refers to the positive correlation between the importance of the technological environment as a labour-related risk factor and the value of long-term insurance assets managed by each investment practitioner (correlation coefficient of 0,428 and p-value of 0,041). This implies that the technological environment was perceived to increase in importance as the value of assets managed by each investment practitioner increased. Investment practitioners responsible for managing large sums of long-term insurance assets were therefore particularly aware of the impact of technological change on employment, production processes and the obsolescence of skills in an environment where local enterprises continuously had to compete with the best skills available in the rest of the world.

The last correlation in the above table refers to the negative correlation between the practice of making use of investment reports prepared by external researchers and the importance of inflation as a labour-related risk factor (correlation coefficient of -0,591 and p-value of 0,003). In other words, as more use was made of investment reports prepared by external researchers, inflation was perceived to become less important as a labour-related risk factor.

2) Correlation amongst the external environmental labour-related risk factors

The investigation focused on significant correlation between the importance attached to external environmental labour-related risk factors in general and the importance of each main/key labour-related risk factor. In addition, the investigation targeted significant correlation between each main/key labour-related risk factor and its components. In other words, possible significant correlation between the components of a main labour-related risk factor (such as the political environment), as well as the correlation of these aspects with the components of another main labour-related risk factor (such as the economic environment), was not investigated. This decision was taken because further refinement of the investigation would not add value to the study due to the large number of labour-related risk factors in the discussion guideline.

Significant correlation in this regard is summarised in Table 4/28 below.

TABLE 4/28: SUMMARY OF SIGNIFICANT CORRELATION AMONGST THE EXTERNAL ENVIRONMENTAL LABOUR-RELATED RISK FACTORS AS FAR AS *KNOWLEDGE* WORKER ENTERPRISES ARE CONCERNED

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
External environmental labour-related risk factors & Economic environment	23	0,425	2,154	0,043
Political environment &				
• Political stability	23	0,854	7,528	2,15E-07
• Distribution of political power	23	0,688	4,340	2,88E-04
Economic environment &				
• Business cycle	23	0,793	5,964	6,42E-06
• Level and trend in unemployment	23	0,599	3,426	0,003
• Global business environment	23	0,702	4,521	1,87E-04
Social environment &				
• Different cultural values	23	0,600	3,441	0,002
• Demographic characteristics and trends	23	0,707	4,576	1,64E-04
• Skills and education of the population	23	0,572	3,197	0,004
Technological environment &				
• Impact of technological change on employment, production processes and the obsolescence of skills	23	0,870	8,094	6,82E-08
• Extent and manner of co-operation between management and the labour force when they deal with technological change	23	0,867	7,974	8,67E-08

Source: Responses to questions C4 and C5 of the discussion guideline.

Table 4/28 highlights that the importance attached to external environmental labour-related risk factors in general is positively correlated with the importance of the economic environment (correlation coefficient of 0,425 and p-value of 0,043). This is the only main external environmental risk factor that correlates significantly with the importance attached to external environmental labour-related risk factors in general and may imply that the respondents who were of the opinion that external environmental labour-related risk factors were of great importance for knowledge worker enterprises were concerned that the prospects for the local economy were not attractive enough to retain knowledge workers in the country. Alternatively, they may be worried that knowledge worker enterprises would experience serious staff shortages as and when the local economy recovered.

In the rest of Table 4/28, significant correlation between each of the main external environmental risk factors and their respective components is summarised. In what follows, the correlation between these aspects is discussed.

The respondents' views regarding the importance of the political environment as a labour-related risk factor are positively correlated with the level of importance they placed on political stability (correlation coefficient of 0,854 and p-value of 2,15E-07) and the distribution of political power (correlation coefficient of 0,688 and p-value of 2,88E-04) as labour-related risk factors. The correlation between these aspects therefore implies that the respondents who pay a lot of attention to the political environment were more concerned about political stability and the distribution of political power in particular than the respondents who did not regard the political environment as such an important labour-related risk factor.

The next group of labour-related risks in Table 4/28 refers to significant correlation amongst aspects within the economic environment. The importance of the economic environment as a labour-related risk factor is positively correlated with how important the respondents regarded the business cycle (correlation coefficient of 0,793 and p-value of 6,42E-06), the level and trend in unemployment (correlation coefficient of 0,599 and p-value of 0,003), and the global business environment (correlation coefficient of 0,702 and p-value of 1,87E-04) to be as labour-related risk factors. The correlation of the importance of the economic environment with the importance of the business cycle and with the importance of the level and trend in unemployment may reflect the concern among respondents who paid a lot of attention to economic environmental labour-related risk factors that knowledge worker enterprises might experience staff shortages during the upward phase of the business cycle. This might not inhibit the growth of these enterprises only, but also put their operations at risk when sufficient numbers of trained staff are not available to attend to key tasks. The importance of the global business environment as a labour-related risk factor is closely linked to the above-mentioned aspects, because it may have an impact on the availability of knowledge workers in any country.

Significant correlation exists between the importance of the social environment as a labour-related risk factor and the importance of its components as labour-related risk factors, namely different cultural values (correlation coefficient of 0,600 and p-value of 0,002), demographic

characteristics and trends (correlation coefficient of 0,707 and p-value of 1,64E-04), and the skills and education of the population (correlation coefficient of 0,572 and p-value of 0,004). The first correlation indicates that, as the importance of the social environment increases, the different cultural values in knowledge worker enterprises will also become more important. Similarly, the social environment and demographic characteristics and trends are positively correlated, which indicates that the importance of demographic characteristics and trends in knowledge worker enterprises will increase as the social environment as a labour-related risk factor becomes more important. The positive correlation between the importance of the social environment and the skills and education of the population does not come as a surprise. It is understandable that there would have been respondents who were particularly worried about the shortage of skills and education in South Africa which would be reflected in the social environment of knowledge worker enterprises.

Lastly, Table 4/28 reflects the significant correlation between the importance of the technological environment as a labour-related risk factor and its components. The correlation between these aspects is positive and includes the correlation between the technological environment and the impact of technological change on employment, production processes and the obsolescence of skills (correlation coefficient of 0,870 and p-value of 6,82E-08), and the correlation of the technological environment with the degree of importance placed by the respondents on the extent and manner of co-operation between management and the labour force when they dealt with technological change (correlation coefficient of 0,867 and p-value of 8,67E-08). The first correlation indicates that, as respondents put more emphasis on the technological environment as an important labour-related risk factor, they were also more aware that knowledge workers would have to cope with a fast-changing work environment as a result of technological changes. The value of historically gained knowledge is therefore exposed to depreciation as a result of technological changes. This implies that when these associated labour-related risks were assessed, respondents focused on the relevance of existing knowledge, the pace at which it depreciated, and on what could be done and was being done by management and the labour force to counter the impact of technological change on knowledge workers. This explains the positive correlation that exists between the importance of the technological environment as a labour-related risk factor and the importance of the extent and manner of co-operation between management and the labour force when they deal with technological change.

4.4.2 The company-specific environment

The company-specific environment includes a number of labour-related risk factors. These are the track record of labour relations, the legal framework in which labour relations are practised, the existence of behavioural agreements between the company and the labour force, the existence of sound labour relations practices at the enterprise, contingent liabilities for the enterprise in respect of the labour force, the availability of adequate labour resources to meet the future labour requirements of the enterprise, as well as how the enterprise and the labour force view each other.

The views of the respondents regarding the importance of these labour-related risk factors for the purpose of financial investment decision-making in manual and knowledge worker enterprises are reported below. Subsequently, significant correlation for manual worker enterprises is discussed, and significant correlation for knowledge worker enterprises then receives attention.

4.4.2.1 Company-specific labour-related risk factors

The views of the respondents regarding the importance of company-specific labour-related risk factors are summarised in Table 4/29 and are commented on afterwards. The first item in Table 4/29 indicates how much importance the respondents attached to company-specific labour-related risk factors in general when they assessed enterprises for the purpose of financial investment decision-making. Following this, responses regarding the importance of each of the company-specific labour-related risk factors are reported. The range of opinions with regard to the importance of each of these risk factors is not included in the table, but is reported in the discussion that follows. The range of opinions, however, is only commented on if the difference in the range for manual and knowledge worker enterprises exceeds one.

TABLE 4/29: RESPONSES WITH REGARD TO THE *IMPORTANCE* OF COMPANY-SPECIFIC LABOUR-RELATED RISK FACTORS WHEN A DETAILED STUDY OF THE RISKS IS UNDERTAKEN FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

Labour-related risk factor	Manual workers	Knowledge workers	Sign test	
	Mean	Mean	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
Company-specific labour-related risk factors	**3,65**	**3,91**	**2/15/6**	**NS**
Track record of labour relations	**3,52**	**2,87**	**14/4/5**	**NS**
Causes of labour disputes, typical conflict-handling behaviour of management and the labour force, as well as the appropriateness of such behaviour	3,74	2,35	20/2/1	S (1%)
Causes, extent and nature of employee turnover and absenteeism	3,09	3,35	6/7/10	NS
Timing of labour unrest	3,35	2,22	15/7/1	S (1%)
Historic trend of value that has been created, as well as the distribution thereof	3,17	3,26	4/11/8	NS
Legal framework in which labour relations are practised	**3,61**	**1,78**	**22/1/0**	**S (1%)**
Right of employees to strike	3,48	1,43	19/4/0	S (1%)
Flexibility of labour	3,70	2,13	18/4/1	S (1%)
The creation of workplace forums in addition to the traditional collective bargaining structure	3,22	1,70	16/7/0	S (1%)
Existence of behavioural agreements	**3,22**	**3,09**	**8/9/6**	**NS**
Existence of sound labour relations practices	**3,61**	**3,57**	**4/14/5**	**NS**
Recruitment and interviewing practices	2,35	4,22	0/1/22	S (1%)
Participation of the employees in decision-making	2,57	3,87	1/3/19	S (1%)
Sharing of information between the employer and the employees	3,17	4,04	2/7/14	S (1%)
Financial empowerment of the employees	3,17	4,26	0/7/16	S (1%)

TABLE 4/29 CONTINUE

Labour-related risk factor	Manual workers	Knowledge workers	Sign test	
	Mean	Mean	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
Development of human resources	3,83	3,57	9/10/4	NS
Reasonable working conditions	3,39	3,48	5/10/8	NS
Employment equity	2,48	4,13	1/2/20	S (1%)
Contingent liabilities for the enterprise in respect of the labour force	3,39	2,43	15/6/2	S (1%)
The availability of labour	2,65	4,22	0/2/21	S (1%)
Adequacy of the existing labour force in both quantitative and qualitative terms	2,78	4,17	0/4/19	S (1%)
Likelihood of future labour shortages at the enterprise	2,48	4,22	0/3/20	S (1%)
Enterprise interventions to reduce the risk of an insufficient external labour supply	3,13	3,83	1/10/12	S (1%)
Enterprise's view of the labour force	3,52	3,65	4/14/5	NS
Mission and strategy of the enterprise	3,09	3,48	3/12/8	NS
Organisational culture	3,04	3,52	4/10/9	NS
Leadership's approach to the labour force	3,87	3,78	6/13/4	NS
Management practices	3,91	3,57	8/13/2	NS
Organisational structure	3,13	3,04	7/9/7	NS
Systems (policies and procedures)	3,39	3,04	8/11/4	NS
The labour force's view of the enterprise	3,61	3,87	4/11/8	NS
Morale of the labour force	3,65	4,09	5/9/9	NS
Attitude of the labour force	3,74	4,09	3/12/8	NS
Labour climate within the enterprise	3,52	3,96	3/12/8	NS
Culture of the labour force	3,43	3,39	6/12/5	NS

Source: The statistical calculations were done based on responses to questions C4 and C6 of the discussion guideline.

1) Company-specific labour-related risk factors in general

Company-specific labour-related risk factors were regarded as closer to highly important for knowledge worker enterprises than for manual worker enterprises. This is reflected in a

mean of 3,91 (range of 2 with a minimum value of 3 and a maximum value of 5) in the case of knowledge worker enterprises, which is slightly higher than the mean of 3,65 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises.

An analysis of individual responses regarding the importance of company-specific labour-related risk factors for these two types of enterprises indicates that 15 of the respondents regarded it as of equal importance for both types, while six were convinced that it was more important for knowledge than for manual worker enterprises. Two of the respondents maintained that these risk factors were of greater importance for manual than for knowledge worker enterprises. The sign test indicates that the differences between the paired observations are not significant. The null hypothesis is therefore not rejected, which implies that company-specific labour-related risk factors are regarded as of equal importance for manual and knowledge worker enterprises.

In what follows, the focus is shifted to responses regarding the importance of the various company-specific labour-related risk factors. Significant differences between manual and knowledge worker enterprises can be identified in this way. In other words, although the individual respondents generally regarded company-specific labour-related risk factors as equally important for manual and knowledge worker enterprises, significant differences might exist between the responses of these two types of enterprises when attention is paid to the individual labour-related risk factors.

2) Track record of labour relations

The mean of 3,52 (range of 3 with a minimum value of 2 and a maximum value of 5) indicates that the track record of labour relations is closer to highly important for manual than for knowledge worker enterprises (a mean of 2,87 and a range of 4 with a minimum value of 1 and a maximum value of 5).

Analysis of the paired responses indicates that five of the respondents were of the opinion that the track record of labour relations was a more important risk factor for knowledge than for manual worker enterprises. Fourteen of them perceived it to be the other way round, while four respondents mentioned that this labour-related risk factor was of equal importance for both types of enterprises. The sign test indicates that the differences between the paired

observations are not significant at the five per cent level and the null hypothesis is therefore not rejected. It is fair to conclude that the track record of labour relations is equally important for manual and knowledge worker enterprises.

The information in the preceding paragraph implies that, from a labour-related risk point of view, knowledge worker enterprises rely on a stable track record to meet the investment criteria of the respondents to the same extent as manual worker enterprises. This is a general statement that does not disclose to what extent the respondents emphasised different aspects when they assessed the track record of labour relations in these two types of enterprises. With this in mind, the respondents were asked how important they regarded various labour-related risk factors that collectively reflected the track record of labour relations to be. Their responses to these questions now receive the necessary attention.

Causes of labour disputes, typical conflict-handling behaviour of management and the labour force, as well as the appropriateness of such behaviour

The respondents regarded this labour-related risk factor as close to highly important for manual worker enterprises (mean of 3,74 and a range of 3 with a minimum value of 2 and a maximum value of 5) and as more than of little importance for knowledge worker enterprises (mean of 2,35 and a range of 4 with a minimum value of 1 and a maximum value of 5).

Analysis of the individual responses brings to light that 20 of the 23 respondents regarded this aspect as being of more importance for manual than for knowledge worker enterprises. One of the respondents held an opposing view, while two regarded it as equally important for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level and the null hypothesis is therefore rejected. The conclusion can therefore be reached that the individual respondents regarded the historical causes of labour disputes and typical conflict-handling behaviour to resolve these disputes as a more important labour-related risk factor for manual than for knowledge worker enterprises.

The results presented in the preceding paragraphs indicate that the respondents were of the opinion that unhappy manual workers do not resign, but remain in the enterprise to engage in conflict-handling behaviour. This labour-related risk factor is less important for knowledge worker enterprises, because knowledge workers have skills that are in higher demand than

those offered by manual workers. The perception therefore exists that frustrated knowledge workers will not persevere for as long as manual workers, but rather leave the enterprise to pursue other interests. Consequently, the causes of labour disputes and typical conflict-handling behaviour are not as important in knowledge worker enterprises as in manual worker enterprises.

Causes, extent and nature of employee turnover and absenteeism

The causes, extent and nature of employee turnover and absenteeism as a labour-related risk factor was regarded as more important for knowledge than for manual worker enterprises. This is reflected by a mean of 3,35 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises and a mean of 3,09 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises.

An analysis of the paired observations indicates that 10 of the respondents regarded this risk factor as of more importance for knowledge than for manual worker enterprises, six held an opposing view, while seven respondents were of the opinion that it was of the same importance for both types of enterprises. Application of the sign test indicates that these differences are not significant at the five per cent level and the null hypothesis is not rejected. The conclusion can therefore be reached that the respondents regarded this labour-related risk factor as of equal importance for manual and knowledge worker enterprises.

Timing of labour unrest

The respondents regarded the timing of labour unrest as more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,35 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of manual worker enterprises and a mean of 2,22 (range of 3 with a minimum value of 1 and a maximum value of 4) for knowledge worker enterprises.

When attention is shifted to the views of the individual respondents, it becomes apparent that the majority of the respondents regarded the timing of labour unrest as a more important risk factor for manual than for knowledge worker enterprises. To be more specific, 15 respondents mentioned that the timing of labour unrest was more important for manual than

for knowledge worker enterprises, one stated that it was the other way round, and seven of the respondents indicated that they regarded it as of the same importance for all enterprises. Application of the sign test confirms that these differences are significant at the one per cent level of significance and the null hypothesis is rejected. It is therefore realistic to conclude that the timing of labour unrest is of more importance for the purpose of financial investment decision-making in the case of manual worker enterprises than for knowledge worker enterprises.

The above finding does not necessarily mean that knowledge workers were perceived to be more considerate towards the needs of the enterprise than manual workers when they decided to show their dissatisfaction with the labour relationship. It can probably be attributed to the perception that labour-related problems often do not manifest themselves in the same way in these two types of enterprises. This view is consistent with the earlier results of this study (as indicated in Table 4/19) when it became apparent that the respondents regarded strikes as a far more important indicator of labour instability in manual than in knowledge worker enterprises. In contrast, the respondents mentioned that staff turnover was a more important indicator of labour instability in knowledge than in manual worker enterprises. Knowledge workers may therefore be less inclined than manual workers to resort to organised labour unrest and the timing thereof when they are dissatisfied with the labour relationship. As individuals they would rather consider leaving the enterprise, while manual workers might be tempted, as a group, to consider the timing of labour unrest to strengthen their bargaining power.

Historic trend of value that has been created, as well as the distribution thereof

The respondents were of the opinion that this labour-related risk factor was slightly more important for knowledge than for manual worker enterprises. This is illustrated by the mean of 3,26 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises and the mean of 3,17 (range of 4 with a minimum value of 1 and a maximum value of 5) that is applicable to manual worker enterprises.

An analysis of the individual responses indicates that 11 of the 23 respondents regarded this risk factor as of the same level of importance for both types of enterprises. Four respondents were of the opinion that it was of particular importance for manual worker enterprises, while

eight of the respondents suggested that it was more important for knowledge worker enterprises. The sign test indicates that the differences between the paired observations are not significant on the five per cent level and the null hypothesis is not rejected. It is therefore reasonably safe to conclude that the historic trend of value that has been created in the enterprise and distributed, is an equally important labour-related risk factor for manual and knowledge worker enterprises.

3) Legal framework in which labour relations are practised

The mean of 3,61 (range of 3 with a minimum value of 2 and a maximum value of 5) indicates that the legal framework in which labour relations are practised is regarded as close to highly important for manual worker enterprises. In contrast, a mean of 1,78 (range of 2 with a minimum value of 1 and a maximum value of 3) shows that it is viewed as close to of little importance for knowledge worker enterprises.

The contrast mentioned in the preceding paragraph also becomes apparent when the responses of each of the participants in the survey are analysed. Twenty-two of the respondents indicated that it was more important for manual than for knowledge worker enterprises, while the remaining respondent perceived it to be equally important for these two types of enterprises. The sign test confirms that these differences are significant at the one per cent level and the null hypothesis is rejected. It is therefore safe to conclude that the legal framework in which labour relations are practised, is a more important labour-related risk factor for manual than for knowledge worker enterprises.

In order to have a better understanding of why the respondents regarded the legal framework as of more importance for manual than for knowledge worker enterprises, it is necessary to pay attention to their responses regarding the importance of the components of the legal framework as labour-related risk factors. Responses regarding the right of employees to strike, the flexibility of labour, and the creation of workplace forums in addition to the traditional collective bargaining structure are highlighted in the following paragraphs with this in mind.

Right of employees to strike

On average, the respondents were of the opinion that the right of employees to strike is much more important for manual than for knowledge worker enterprises. This is reflected in a mean of 3,48 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises, which is more than moderately important, and a mean of 1,43 (range of 2 with a minimum value of 1 and a maximum value of 3) which is less than of little importance for knowledge worker enterprises. It is interesting to note that there was less agreement among the respondents regarding the importance of this labour-related risk factor in the case of manual worker enterprises than for knowledge worker enterprises (range of 4 in respect of the former type of enterprise and a range of 2 as far as the latter type of enterprise is concerned). The respondents were therefore fairly unanimous in their views when they had to respond regarding the importance of the right of employees to strike as a labour-related risk factor in knowledge worker enterprises. It is necessary to focus on the answers of each of the respondents to put these aspects into perspective.

Nineteen of the 23 respondents indicated that the right of employees to strike was a more important risk factor for manual than for knowledge worker enterprises. The remaining four respondents replied that it was of the same importance for these two types of enterprises. According to the sign test, these differences are significant at the one per cent level and the null hypothesis is rejected. There is therefore sufficient reason to believe that the respondents regarded the right of employees to strike as a more important labour-related risk factor for manual than for knowledge worker enterprises.

As the same legal framework applies to both manual and knowledge workers, these results may indirectly reflect the views among the respondents that knowledge workers were less inclined than manual workers to revert to strike action. This does not imply that knowledge worker enterprises are less risky than manual worker enterprises, but merely that knowledge workers may have less reason to strike than manual workers. It should therefore rather be interpreted as a perception among the respondents that knowledge workers were more inclined to make use of alternative actions to achieve their goals in the labour relationship. The strong bargaining position of employees with skills that are in short supply is an illustrative example.

Flexibility of labour

The flexibility of labour refers to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment. The mean of 3,70 (range of 4 with a minimum value of 1 and a maximum value of 5) indicates that the flexibility of labour is regarded as closer to highly important for manual than for knowledge worker enterprises where the responses resulted in a mean of 2,13 (range of 4 with a minimum value of 1 and a maximum value of 5).

Eighteen of the respondents indicated that the flexibility of labour was a more important risk factor for manual than for knowledge worker enterprises. Only one respondent argued that was is a more important risk factor for knowledge worker enterprises, while four of them were convinced that it was equally important to both types of enterprises. Application of the sign test indicates that these differences are significant at the one per cent level, rejecting the null hypothesis, and it is therefore safe to assume that the respondents regarded the flexibility of labour as a more important labour-related risk factor for manual than for knowledge worker enterprises.

The above-mentioned results highlight the concern among the respondents about legal restrictions on the ability, especially of manual worker enterprises, to alter the size of their labour forces to adapt to changes in the external environment. They were of the opinion that this was less of a problem for knowledge worker enterprises, notwithstanding the fact that both manual and knowledge worker enterprises operate in the same legal environment. It can perhaps be attributed to the view among the respondents that knowledge workers were more in demand than manual workers, therefore they were better able to find alternative employment if their services were no longer required at an enterprise.

The creation of workplace forums in addition to the traditional collective bargaining structures

This labour-related risk factor is regarded as more than moderately important for manual worker enterprises and short of of little importance in the case of knowledge worker enterprises. The mean of 3,22 (range of 4 with a minimum value of 1 and a maximum value of 5) for this labour-related risk factor in the case of manual worker enterprises compared to a

mean of 1,70 (range of 3 with a minimum value of 1 and a maximum value of 4) when knowledge worker enterprises are assessed for the purpose of financial investment decision-making, highlights the perceptions of the respondents in this regard.

When the views of the individual respondents are analysed, it becomes apparent that 16 respondents were convinced that this risk factor was of more importance for manual than for knowledge worker enterprises, while the remaining seven indicated that it was of the same importance for these two types of enterprises. According to the sign test, these differences are significant at the one per cent level. The null hypothesis is therefore rejected. Based on the responses to this question, the creation of workplace forums in addition to the collective bargaining structure should be regarded as a more important labour-related risk factor for manual than for knowledge worker enterprises.

The responses obtained reflect a concern that workplace forums complicate decision-making unnecessarily, especially in manual worker enterprises. This concern revolved around the legal obligation of management to consult with the workplace forum on a wide variety of issues regarding production and human resources that has the potential to delay decision-making. Swift decision-making is vital for survival in a fast changing business environment.

4) Existence of behavioural agreements

This labour-related risk factor was regarded as more important for manual than for knowledge worker enterprises. This is reflected in a mean of 3,22 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises and a mean of 3,09 (range of 4 with a minimum value of 1 and a maximum value of 5) when knowledge worker enterprises are assessed.

When attention is paid to the responses of each of the survey participants, it becomes obvious that eight of them regarded this risk factor as being of more importance for manual than for knowledge worker enterprises, while six were of the opinion that it was the other way round. Nine of the respondents indicated that it was of the same importance for both kinds of enterprises. The sign test indicates that the differences between the paired observations are not significant at the five per cent level and the null hypothesis is not rejected. The existence

of behavioural agreements should therefore be regarded as of the same importance for manual and knowledge worker enterprises.

5) Existence of sound labour relations practices

The responses regarding the importance of this labour-related risk factor for the purpose of financial investment decision-making resulted in a mean of 3,61 (range of 2 with a minimum value of 3 and a maximum value of 5) for manual worker enterprises and a mean of 3,57 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises. Based on the means, the existence of sound labour relations practices is slightly more important for manual than for knowledge worker enterprises. The ranges in the responses indicate that there was less agreement among the respondents regarding the importance of this risk factor when knowledge worker enterprises were assessed than when manual worker enterprises were the subject of assessment.

Fourteen of the respondents suggested that the existence of sound labour relations practices was equally important for manual and knowledge worker enterprises. Four of the respondents were of the opinion that it was more important for manual than for knowledge worker enterprises, while five indicated that the opposite was true. According to the sign test, these differences are not significant at the five per cent level. The null hypothesis is not rejected. The existence of sound labour relations practices as a labour-related risk factor should therefore be regarded as of equal importance for manual and knowledge worker enterprises.

Recruitment and interviewing practices

The mean of 4,22 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises compared to a mean of 2,35 (range of 3 with a minimum value of 1 and a maximum value of 4) for manual worker enterprises indicates that the respondents regard this labour-related risk factor as more than highly important for the former and more than of little importance for the latter type of enterprise.

As far as the paired observations are concerned, 22 respondents indicated that recruitment and interviewing practices were more important for knowledge than for manual worker

enterprises. The remaining respondent was of the opinion that it was of equal importance for both types of enterprises. According to the sign test, these differences are significant at the one per cent level, thus rejecting the null hypothesis. On the strength of these results, recruitment and interviewing practices should be regarded as a more important labour-related risk factor for knowledge than for manual worker enterprises.

The above-mentioned results indicate that the respondents were of the opinion that knowledge worker enterprises should be particularly careful with new appointments, because the cost of mistakes is high. This does not only refer to the cost of recruitment, but also to the significant costs associated with employee turnover in knowledge worker enterprises.

Participation of the employees in decision-making

The participation of the employees in decision-making was regarded as a more important labour-related risk factor for knowledge worker enterprises than in the case of manual worker enterprises. The mean of 3,87 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of knowledge worker enterprises and the mean of 2,57 (range of 4 with a minimum value of 1 and a maximum value of 5) when manual worker enterprises are the subject of assessment, is a reflection of this fact.

An analysis of the opinions expressed by each of the respondents indicates that 19 of them were of the opinion that the participation of the employees in decision-making was a more important risk factor for knowledge than for manual worker enterprises, one respondent maintained that the opposite was true, and three mentioned that it was equally important for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level, rejecting the null hypothesis, and therefore this labour-related risk factor should be regarded as of more importance for knowledge than for manual worker enterprises.

It is evident from the information in the preceding paragraphs that the participation of employees in decision-making was regarded as of vital importance, especially for knowledge worker enterprises. This is a reflection of the significant wealth-creation capabilities of knowledge workers as individuals and indicates that each knowledge worker was regarded as a manager of his/her workstation. By implication, the participation of each worker was therefore regarded as a vital component to achieve sustained organisational performance.

Sharing of information between the employer and the employees

The mean of 4,04 (range of 2 with a minimum value of 3 and a maximum value of 5) for knowledge worker enterprises compared to a mean of 3,17 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises, highlights the perception among the respondents that this labour-related risk factor is more than highly important for the former type of enterprise and more than moderately important for the latter type of enterprise.

Fourteen of the respondents indicated that they regarded the sharing of information between the employer and the employees as a more important risk factor for knowledge than for manual worker enterprises, only two respondents were convinced that the opposite was true, while seven respondents were of the opinion that it was of similar importance for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level and the null hypothesis is therefore rejected. As a result, the sharing of information between the employer and the employees should be regarded as of more importance for knowledge than for manual worker enterprises.

The emphasis placed on this labour-related risk factor in the case of knowledge worker enterprises indicates the firm belief among the respondents that information had to be shared in the enterprise for knowledge workers and ultimately also for an enterprise to function optimally. This is to be expected, especially if cognisance is taken of the need for knowledge workers to participate in decision-making. The sharing of information between the employer and the employees, however, is also of importance to prevent misunderstandings from occurring in the enterprise. This labour-related risk factor is therefore also of importance for manual worker enterprises, because misunderstandings in any enterprise breeds uncertainty, which in turn increases the potential risk.

Financial empowerment of the employees

This labour-related risk factor was regarded as more than highly important for knowledge worker enterprises and more than moderately important for manual worker enterprises. This is reflected by a mean of 4,26 (range of 2 with a minimum value of 3 and a maximum value

of 5) in the case of knowledge worker enterprises and a mean of 3,17 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises.

Sixteen of the 23 respondents indicated that the financial empowerment of the employees was a more important risk factor for knowledge than for manual worker enterprises, while the remaining seven respondents were of the opinion that it was of the same importance for both types of enterprises. According to the sign test these differences are significant at the one per cent level, and it is therefore safe to conclude that this labour-related risk factor is more important for knowledge than for manual worker enterprises, as the null hypothesis is rejected.

It therefore becomes clear that, although the financial empowerment of the employees was regarded as an important labour-related risk factor in the case of manual worker enterprises, it was regarded as of even more importance when knowledge worker enterprises were assessed for the purpose of financial investment decision-making. Aspects with potential to increase this risk include pay discrimination based on race and/or gender that have nothing to do with the contributions of the employees to the success of the enterprise, an above average wage gap between top management and the labour force which is not based on performance, and pay packages that are structured to include a variable component without the involvement and support of the employees who are affected.

Development of human resources

With a mean of 3,83 (range of 2 with a minimum value of 3 and a maximum value of 5), the development of human resources is regarded as closer to highly important for manual worker enterprises than for knowledge worker enterprises where the responses resulted in a mean of 3,57 (range of 3 with a minimum value of 2 and a maximum value of 5).

Analysis of the individual responses indicates that 10 of the respondents regarded this risk factor as equally important for manual and knowledge worker enterprises, nine of the respondents mentioned that it was more important for manual than for knowledge worker enterprises, while four respondents maintained that the opposite was true. According to the sign test, these differences are not significant and the null hypothesis is not rejected. The

development of human resources can therefore be regarded as of equal importance for both types of enterprises.

Reasonable working conditions

Reasonable working conditions as a labour-related risk factor was regarded as slightly more important for knowledge than for manual worker enterprises. This is reflected by a mean of 3,48 (range of 4 with a minimum value of 1 and a maximum value of 5) for knowledge worker enterprises, and 3,39 (range of 3 with a minimum value of 2 and a maximum value of 5) for manual worker enterprises.

Analysis of the paired responses indicates that eight of the respondents were of the opinion that this risk factor was more important for knowledge than for manual worker enterprises, five stated that the opposite was the case, and 10 replied that it was of the same importance for both. The sign test indicates that these differences are not significant and that the null hypothesis is not rejected. Reasonable working conditions can therefore be regarded as an equally important labour-related risk factor for both types of enterprises.

Employment equity

This labour-related risk factor was regarded as more than highly important for knowledge worker enterprises, while the respondents were generally of the opinion that it was between little and moderately important for manual worker enterprises. The mean of 4,13 (range of 3 with a minimum value of 2 and a maximum value of 5) applicable to knowledge worker enterprises, compared to a mean of 2,48 (range of 4 with a minimum value of 1 and a maximum value of 5) when this labour-related risk factor is assessed in manual worker enterprises, emphasises the difference in importance of employment equity as a labour-related risk factor for these two types of enterprises.

A comparison of the replies by each of the respondents shows that 20 of the respondents perceived this as a more important risk factor for knowledge than for manual worker enterprises, one respondent supported the opposite view, and two respondents indicated that it was equally important for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level and the null hypothesis is rejected.

Employment equity should therefore be regarded as a more important labour-related risk factor for knowledge than for manual worker enterprises.

The views expressed by the respondents reflected a possible concern that legal requirements to implement positive measures such as affirmative action to redress historic imbalances in the labour market over a relatively short time period, might be particularly problematic for knowledge worker enterprises. These concerns were fuelled by the fact that international experience as far as equal opportunity and affirmative action were concerned could not be directly compared with South African circumstances. Internationally, nearly all experience had to do with addressing discrimination against a minority, while, in South Africa, the majority was the target group. This added to uncertainty among institutional investors, because it placed an immediate burden on enterprise resources due to the prospect of future benefits that were difficult to measure. The fact that employment equity was regarded as a less important labour-related risk factor for manual worker enterprises, indicates that the imbalances in these labour forces were not as severe and were less problematic to rectify than imbalances in the labour forces of knowledge worker enterprises.

6) Contingent liabilities for the enterprise in respect of the labour force

The responses resulted in a mean of 3,39 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises, which is more than moderately important. The responses regarding the importance of this labour-related risk factor for knowledge worker enterprises resulted in a mean of 2,43 (range of 3 with a minimum value of 1 and a maximum value of 4), which is more than of little importance.

When the focus is shifted to the paired responses, it is interesting to note that 15 respondents thought that this was a more important risk factor for manual than for knowledge worker enterprises, two respondents indicated that the opposite was true and six respondents replied that the risk was the same for both types of enterprises. According to the sign test these differences are significant at the one per cent level, thus rejecting the null hypothesis, and therefore it should be regarded as a more important labour-related risk factor for manual than for knowledge worker enterprises.

The main contingent liabilities for the enterprises in respect of the labour force referred to post-retirement benefits such as pension funds and medical aid schemes. The reason for the respondents regarding this as a more important labour-related risk factor for manual worker than for knowledge worker enterprises probably relates to a perception that manual workers relied on the enterprise to take the initiative in providing in their pension and medical aid needs more than knowledge workers did.

7) The availability of labour

The mean of 4,22 (range of 2 with a minimum value of 3 and a maximum value of 5) indicates that the respondents were of the opinion that the availability of labour was more than highly important for knowledge worker enterprises, while it was close to moderately important for manual worker enterprises, as reflected by a mean of 2,65 (range of 4 with a minimum value of 1 and a maximum value of 5).

When the paired responses of each of the respondents are analysed, it becomes obvious that 21 respondents mentioned that the availability of labour was a more important risk factor for knowledge than for manual worker enterprises. The remaining two respondents indicated that it was of equal importance for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level and the null hypothesis is rejected. The availability of labour should therefore be regarded as a more important labour-related risk factor for knowledge than for manual worker enterprises.

The responses, as discussed in the preceding paragraphs, are a reflection of the general view that South Africa has an oversupply of labour in quantitative terms and a shortage of skilled employees. The sustained performance, particularly of knowledge worker enterprises, is therefore at risk due to a lack of skills. According to the respondents, this aspect needed careful consideration, especially when financial investments in knowledge worker enterprises were considered. With this in mind, it is appropriate to pay attention to the importance of the aspects that have a direct impact on the availability of labour.

Adequacy of the existing labour force in both quantitative and qualitative terms

This labour-related risk factor was viewed as more than highly important for knowledge worker enterprises, as highlighted by a mean of 4,17 (range of 2 with a minimum value of 3 and a maximum value of 5), while, in the case of manual worker enterprises, it was regarded as close to moderately important, as reflected by a mean of 2,78 (range of 3 with a minimum value of 1 and a maximum value of 4).

Scrutiny of the replies by each of the respondents shows that 19 of them were convinced that this was a more important risk factor for knowledge than for manual worker enterprises, while the remaining four thought that it was of the same importance for both types of enterprises. The sign test confirms that these differences are significant at the one per cent level and the null hypothesis is rejected. The adequacy of the existing labour force in both quantitative and qualitative terms should therefore be regarded as a more important labour-related risk factor for knowledge than for manual worker enterprises.

The information in the preceding paragraphs highlights the emphasis that the respondents placed on the adequacy of the existing labour force, especially in the case of knowledge worker enterprises. The identification of existing labour shortages will immediately increase the risk profile of the enterprise as this will put a question mark on the ability of the enterprise to establish the required labour force in future. This explains the importance of the adequacy of the existing labour force as a labour-related risk factor for knowledge worker enterprises, because the generally perceived shortage of skills in the South African labour market will tend to further complicate matters.

Likelihood of future labour shortages at the enterprise

The likelihood of future labour shortages at the enterprise was regarded as more than highly important for knowledge worker enterprises. In the case of manual worker enterprises it was viewed as between little and moderately important. This is reflected by a mean of 4,22 (range of 3 with a minimum value of 2 and a maximum value of 5) for knowledge worker enterprises, and a mean of 2,48 (range of 3 with a minimum value of 1 and a maximum value of 4) in the case of manual worker enterprises.

Scrutiny of the paired responses indicates that 20 of the respondents were of the opinion that this was a more important risk factor for knowledge than for manual worker enterprises, while the remaining three respondents mentioned that they regarded it as of equal importance for both types of enterprises. The sign test indicates that these differences are significant at the one per cent level and the null hypothesis is rejected. The likelihood of future labour shortages at the enterprise should therefore be regarded as a more important labour-related risk factor for knowledge than for manual worker enterprises.

These results indicate a perception among the respondents that the current shortage of knowledge workers was likely to persist in years to come. It was therefore important to focus on the expected trend in the future demand for labour, especially by knowledge worker enterprises. Fast growing knowledge worker enterprises would immediately be in a higher risk category than enterprises operating in manual industries, unless they could convince institutional investors that the demand for knowledge workers could be met. In contrast to this, little emphasis was placed on this labour-related risk factor in the case of manual worker enterprises, because the respondents probably expected the current oversupply of labour in quantitative terms to continue.

Enterprise interventions to reduce the risk of an insufficient external labour supply

This labour-related risk factor was regarded as more important for knowledge than for manual worker enterprises. This is reflected by a mean of 3,83 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises, and a mean of 3,13 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises.

Twelve of the respondents replied that they regarded this risk factor as of more importance for knowledge than for manual worker enterprises, one respondent mentioned that the opposite was the case, and 10 respondents indicated that it was of the same importance for both these enterprises. These differences are significant according to the sign test at the one per cent level and the null hypothesis is rejected. This confirms that this labour-related risk factor is of more importance for knowledge than for manual worker enterprises.

8) Enterprise's view of the labour force

The enterprise's view of the labour force as a labour-related risk factor was regarded as slightly closer to highly important for knowledge than for manual worker enterprises. This is reflected by a mean of 3,65 (range of 2 with a minimum value of 3 and a maximum value of 5) in the case of knowledge worker enterprises and a mean of 3,52 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises.

An analysis of the individual responses indicates that 14 of the respondents were of the opinion that this risk factor was equally important to both types of enterprises, five mentioned that it was more important for knowledge than for manual worker enterprises, while four replied that the opposite was true. The sign test indicates that these differences are not significant and the null hypothesis is not rejected. The enterprise's view of the labour force should therefore be treated as of the same importance for both types of enterprises.

In what follows the responses regarding the importance of the aspects which reflect the enterprise's view of the labour force are examined.

Mission and strategy of the enterprise

With a mean of 3,48 (range of 3 with a minimum value of 2 and a maximum value of 5), this labour-related risk factor is regarded as more important for knowledge than for manual worker enterprises for which the opinions resulted in a mean of 3,09 (range of 4 with a minimum value of 1 and a maximum value of 5).

Twelve of the respondents mentioned that they regarded this risk factor as equally important for both types of enterprises, while eight respondents replied that it was of more importance for knowledge than for manual worker enterprises. Three respondents indicated that it was a more important risk factor for manual than for knowledge worker enterprises. The sign test indicates that these differences are not significant at the five per cent level and the null hypothesis is not rejected. The mission and strategy of the enterprise should therefore be regarded as an equally important labour-related risk factor for knowledge worker and manual worker enterprises.

Organisational culture

This labour-related risk factor was regarded as closer to highly important for knowledge than for manual worker enterprises. This is reflected by a mean of 3,52 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises and a mean of 3,04 (range of 4 with a minimum value of 1 and a maximum value of 5) when this labour-related risk factor is assessed for manual worker enterprises.

Nine of the respondents regarded organisational culture as a more important risk factor for knowledge than for manual worker enterprises, four were of the opinion that the contrary was true, while 10 of the respondents mentioned it to be of the same importance for both types of enterprises. The sign test indicates that these differences are not significant at the five per cent level, and this labour-related risk factor should therefore be regarded as of equal importance for manual and knowledge worker enterprises.

Leadership's approach to the labour force

The mean of 3,87 (range of 2 with a minimum value of 3 and a maximum value of 5) in the case of manual worker enterprises and the mean of 3,78 (range of 2 with a minimum value of 3 and a maximum value of 5) for knowledge worker enterprises indicate that this labour-related risk factor is regarded as slightly closer to highly important for the former than for the latter type of enterprise.

Thirteen of the respondents indicated that they regarded this risk factor as of equal importance for both types of enterprises, four replied that it was more important for knowledge than for manual worker enterprises, while six mentioned that the opposite was true. According to the sign test these differences are not significant and the null hypothesis is not rejected. The leadership's approach to the labour force should be treated as an equally important labour-related risk factor for both types of enterprises.

Management practices

Management practices were regarded as a closer to highly important labour-related risk factor for manual than for knowledge worker enterprises. This is reflected by a mean of 3,91 (range

of 2 with a minimum value of 3 and a maximum value of 5) for manual worker enterprises and a mean of 3,57 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of knowledge worker enterprises.

When the focus is shifted to the paired responses of the respondents, it becomes obvious that 13 of them were of the opinion that management practices as a risk factor were of equal importance for both types of enterprises, eight indicated that they were more important for manual than for knowledge worker enterprises, while two of the respondents replied that the accent was the other way round. Application of the sign test indicates that these differences are not significant at the five per cent level and the null hypothesis is not rejected. Management practices should therefore be treated as an equally important labour-related risk factor for both types of enterprises.

Organisational structure

The responses regarding the importance of the organisational structure as a labour-related risk factor resulted in a mean of 3,13 (range of 4 with a minimum value of 1 and a maximum value of 5) for manual worker enterprises and a mean of 3,04 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises. The importance of this labour-related risk factor is therefore slightly greater for manual than for knowledge worker enterprises.

An analysis of the paired responses indicates that seven of the respondents regarded it as a more important risk factor for manual than for knowledge worker enterprises, a similar number mentioned that the opposite was true, while nine mentioned that it was of equal importance for both types of enterprises. The sign test indicates that these differences are not significant at the five per cent level, and organisational structure should therefore be regarded as of equal importance for both types of enterprises, as the null hypothesis is not rejected.

Systems (policies and procedures)

This labour-related risk factor was regarded as more important for manual than for knowledge worker enterprises. This is reflected by a mean of 3,39 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of manual worker enterprises and

a mean of 3,04 (range of 3 with a minimum value of 2 and a maximum value of 5) as far as knowledge worker enterprises are concerned.

An analysis of the replies of each of the respondents indicates that eight of them were of the opinion that it was a more important risk factor for manual than for knowledge worker enterprises, four mentioned that the opposite was true and 11 replied that it was equally important for both. The sign test indicates that these differences are not significant at the five per cent level and the null hypothesis is not rejected. This labour-related risk factor should therefore be regarded as of equal importance for both types of enterprises.

9) The labour force's view of the enterprise

The labour force's view of the enterprise was regarded as a closer to highly important labour-related risk factor for knowledge than for manual worker enterprises. This is reflected by a mean of 3,87 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of knowledge worker enterprises and a mean of 3,61 (range of 2 with a minimum value of 3 and a maximum value of 5) for manual worker enterprises.

Eight of the respondents thought that this was a more important labour-related risk factor for knowledge than for manual worker enterprises, four replied that they supported the opposite view, and 11 indicated that they regarded it as of equal importance for both types of enterprises. According to the sign test, these differences are not significant at the five per cent level and the null hypothesis is not rejected. The labour force's view of the enterprise should therefore be regarded as of the same importance for manual and knowledge worker enterprises.

In the following, the responses with regard to the importance of the aspects that reflect the labour force's view of the enterprise receive the necessary attention.

Morale of the labour force

The morale of the labour force was perceived as being more than highly important as a labour-related risk factor for knowledge worker enterprises, while, in the case of manual worker enterprises, it was regarded as close to highly important. This is reflected by a mean

of 4,09 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of knowledge worker enterprises and a mean of 3,65 (range of 3 with a minimum value of 2 and a maximum value of 5), when manual worker enterprises are subjected to assessment.

Nine of the respondents indicated that the morale of the labour force was a more important risk factor for knowledge than for manual worker enterprises, five were of the opinion that the opposite was more appropriate, while nine regarded it as of equal importance for both types of enterprises. The sign test indicates that these differences are not significant at the five per cent level, therefore this labour-related risk factor should be regarded as of equal importance for manual and knowledge worker enterprises.

Attitude of the labour force

The mean of 4,09 (range of 3 with a minimum value of 2 and a maximum value of 5) indicates that this labour-related risk factor was regarded as more than highly important in the case of knowledge worker enterprises, while, with a mean of 3,74 (range of 2 with a minimum value of 3 and a maximum value of 5) it was regarded as close to highly important in the case of manual worker enterprises.

Eight of the respondents were of the opinion that the attitude of the labour force was a more important risk factor for knowledge than for manual worker enterprises, three replied that the opposite was a better reflection of reality, while 12 mentioned that it was of the same importance for both types of enterprises. The sign test indicates that these differences are not significant at the five per cent level and the null hypothesis is not rejected. The attitude of the labour force should therefore be regarded as of the same importance for manual and knowledge worker enterprises.

Labour climate within the enterprise

This labour-related risk factor is regarded as closer to highly important for knowledge than for manual worker enterprises. This is reflected by a mean of 3,96 (range of 3 with a minimum value of 2 and a maximum value of 5) for knowledge worker enterprises and a mean of 3,52 (range of 3 with a minimum value of 2 and a maximum value of 5) in the case of manual worker enterprises.

When the answers of the individual respondents are analysed, it becomes apparent that eight respondents were of the opinion that the labour climate within the enterprise was a more important risk factor for knowledge than for manual worker enterprises, three maintained that the opposite was a better reflection of reality, while 12 perceived it to be of the same importance for both types of enterprises. According to the sign test, these differences are not significant at the five per cent level, and the labour climate within the enterprise should therefore be regarded as of equal importance for manual and knowledge worker enterprises, as the null hypothesis is not rejected.

Culture of the labour force

This labour-related risk factor is regarded as slightly more important for manual than for knowledge worker enterprises, as reflected by a mean of 3,43 (range of 3 with a minimum value of 2 and a maximum value of 5) for the former type of enterprise and a mean of 3,39 (range of 4 with a minimum value of 1 and a maximum value of 5) for the latter type of enterprise.

Five of the respondents mentioned that this risk factor was of more importance for knowledge than for manual worker enterprises, six replied that it was the other way round and 12 indicated that it was of equal importance for both types of enterprises. The sign test indicates that these differences are not significant at the five per cent level and the null hypothesis is not rejected. The culture of the labour force should therefore be regarded as a labour-related risk factor that is of the same importance for both types of enterprises.

4.4.2.2 Correlation as far as *manual* workers are concerned

In what follows, correlation in respect of manual workers that is significant at the five per cent level is considered. In particular, the focus is on significant correlation between the aspects relating to the company-specific labour-related risk factors and the general information obtained, as well as with the aspects relating to the financial investment decision-making process. The correlation between these aspects is highlighted in the first subsection hereunder. Correlation amongst the aspects relating to the company-specific labour-related risk factors is discussed in the second subsection below.

1) Correlation of the company-specific labour-related risk factors with the general information obtained, as well as with the aspects relating to the financial investment decision-making process

The correlation between aspects that is significant at the five per cent level is summarised in Table 4/30.

TABLE 4/30: CORRELATION OF THE ASPECTS WHICH HAVE TO BE CONSIDERED WHEN A DETAILED STUDY OF LABOUR-RELATED RISKS IN *MANUAL* WORKER ENTERPRISES IS UNDERTAKEN FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING WITH THE GENERAL INFORMATION OBTAINED, AS WELL AS WITH THE ASPECTS RELATING TO THE FINANCIAL INVESTMENT DECISION-MAKING PROCESS

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Total assets &				
• Track record of labour relations	23	0,544	2,971	0,007
• Timing of labour unrest	23	0,452	2,322	0,030
Total assets / Number of investment practitioners employed &				
• Track record of labour relations	23	0,425	2,152	0,043
• Recruitment and interviewing practices	23	-0,526	-2,835	0,010
• Adequacy of the existing labour force	23	-0,420	-2,122	0,046
Years of experience of financial investment decision-making &				
• Adequacy of the existing labour force	23	0,417	2,102	0,048
• Labour climate within the enterprise	23	0,419	2,116	0,047
Number of investment practitioners employed &				
• Timing of labour unrest	23	0,420	2,118	0,046
• Contingent liabilities in respect of the labour force	23	-0,432	-2,195	0,040
Number of companies monitored & Employment equity	23	0,555	3,060	0,006
Number of companies monitored / Number of investment practitioners employed &				
• Historic trend of value that has been created, as well as the distribution thereof	23	-0,525	-2,830	0,010
• Adequacy of the existing labour force	23	-0,446	-2,282	0,033
Practice of doing independent research & Timing of labour unrest	23	0,496	2,616	0,016
Use of investment reports prepared by external researchers & Adequacy of the existing labour force	23	-0,489	-2,571	0,018

Source: Responses to questions in sections A and B, and question C6 of the discussion guideline as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The first two correlations in Table 4/30 highlight that the size of the assets of long-term insurers in respect of which financial investment decisions are taken, are significantly

positively correlated with the importance of the track record of labour relations at the enterprise (correlation coefficient of 0,544 and p-value of 0,007), and with the importance of the timing of labour unrest (correlation coefficient of 0,452 and p-value of 0,030). Both the track record of labour relations and the timing of labour unrest refer to past experience at the enterprise. The correlation between these aspects indicates that, as the total assets managed by the institutions increase, they tend to regard these two labour-related risk factors, which reflect historic labour-related events at the enterprise, as of greater importance. A possible explanation for this can be that investment managers who handle large amounts of long-term insurance assets are more convinced that historic events tend to be repeated and should be investigated thoroughly than those who manage small amounts.

The following three cases of correlation refer to labour-related risk factors that correlate significantly with the value of total assets managed by each investment practitioner. The importance of the track record of labour relations as a labour-related risk factor tends to be regarded as of more importance as investment practitioners handle larger values of funds. This is reflected by the significantly positive correlation between the total assets managed by each investment practitioner and the importance of the track record of labour relations as a labour-related risk factor (correlation coefficient of 0,425 and p-value of 0,043). The importance of recruitment and interviewing practices, and the adequacy of the existing labour force in quantitative and qualitative terms that refer more to the current situation at the enterprise than to historic developments, are negatively correlated with the total assets managed by each investment practitioner (correlation coefficient of -0,526 and p-value of 0,010 in the case of recruitment and interviewing practices, and a correlation coefficient of -0,420 and p-value of 0,046 for the adequacy of the existing labour force in quantitative and qualitative terms). This means that, as the total assets managed by each investment practitioner increase, the importance of recruitment and interviewing practices, and also the adequacy of the existing labour force, become less important. This may be due to the limited time-span of the investment practitioner who has to focus on the financial investment of a larger amount of total assets.

The years of experience of financial investment decision-making held by the investment practitioners, is positively correlated with how important they rated the adequacy of the existing labour force as a labour-related risk factor in both quantitative and qualitative terms (correlation coefficient of 0,417 and p-value of 0,048). The emphasis that experienced

investment practitioners placed on the adequacy of the existing labour force, indicates that they have learnt from experience that an adequate existing labour force reflects the ability of the enterprise to establish the required labour force which should be sufficient to meet the enterprise's needs. The years of investment experience is also positively correlated with the importance of the labour climate within the enterprise as a labour-related risk factor (correlation coefficient of 0,419 and p-value of 0,047). Experienced investment practitioners therefore seem to place more emphasis on the labour climate within the enterprise than less experienced investment practitioners.

The next group of correlations in Table 4/30 refers to the labour-related risk factors that are significantly correlated with the number of investment practitioners employed by each of the institutions that participated in the survey. The first of these is the significantly positive correlation between the number of investment practitioners employed and the importance of the timing of labour unrest as a labour-related risk factor (correlation coefficient of 0,420 and p-value of 0,046). This implies that the institutions employing a large number of investment practitioners tend to regard the timing of labour unrest as a more important labour-related risk factor than the institutions that do not employ as many investment practitioners. The next case refers to the negative correlation between the number of investment practitioners employed by each institution and their responses regarding the importance of contingent liabilities for the enterprise in respect of the labour force as a labour-related risk factor (correlation coefficient of -0,432 and p-value of 0,040). The employers of relatively small numbers of investment practitioners therefore tend to regard contingent liabilities for the enterprise in respect of the labour force as being of more importance than institutions employing relatively large numbers of investment practitioners. This correlation reflects a particular concern among the employers of small numbers of investment practitioners that manual worker enterprises might be at risk as a result of post-retirement benefits such as pension funds and medical aid schemes. The employers of large numbers of investment practitioners may tend to be more convinced that manual worker enterprises have taken the necessary steps to limit this risk.

Another significant correlation that was identified, is the positive correlation between the number of companies monitored for the purpose of financial investment decision-making and the importance of employment equity as a labour-related risk factor (correlation coefficient of 0,555 and p-value of 0,006). Evidence therefore exists that institutions that monitor a large

number of companies for the purpose of financial investment decision-making tend to regard employment equity as a more important labour-related risk factor than institutions that do not monitor as many companies. Institutions monitoring large numbers of companies are particularly concerned that legal requirements to redress historic imbalances in the labour market over a relatively short period of time, might place a burden on enterprise resources with the prospect of future benefits that are difficult to measure.

The next group of correlations in Table 4/30 refers to labour-related risk factors that are significantly correlated with the number of companies monitored by each investment practitioner. The first of these is the negative correlation between the number of companies monitored by each investment practitioner and the importance of the historic trend of value that has been created in the business, as well as the distribution thereof (correlation coefficient of -0,525 and p-value of 0,010). This labour-related risk factor tends to receive less attention as the number of companies monitored by each investment practitioner increases. The reduction in time available to research each company, with investment practitioners having to monitor an increasing number of companies, certainly plays a role in this regard. A further contributing factor might be the difficulty in choosing between the various measures of value creation as investment practitioners, who track a large number of companies, may have other priorities to attend to. The number of companies monitored by each investment practitioner is also negatively correlated with the importance of the adequacy of the existing labour force in both quantitative and qualitative terms (correlation coefficient of -0,446 and p-value of 0,033). The investment practitioners therefore also tend to focus less on this labour-related risk factor when the number of companies they have to monitor increases. This finding can be explained in terms of the time constraints faced by investment practitioners who are responsible for monitoring large numbers of companies.

The practice of doing independent research is positively correlated with the importance of the timing of labour unrest as a labour-related risk factor (correlation coefficient of 0,496 and p-value of 0,016). The respondents become more convinced of the importance of this labour-related risk factor as the practice of completing independent research increases. This correlation can therefore be regarded as an indication that the importance of the timing of labour unrest as a labour-related risk factor tends to increase as the intensity of research escalates.

Lastly, a negative correlation was identified between the use of investment reports prepared by external researchers and the importance of the adequacy of the existing labour force in manual worker enterprises, in both quantitative and qualitative terms, as a labour-related risk factor (correlation coefficient of -0,489 and p-value of 0,018). The adequacy of the existing labour force as a labour-related risk factor in manual worker enterprises therefore tends to be viewed as being of less importance when the respondents make more use of investment reports prepared by external researchers. This can be attributed to a stronger view among institutions that make use of externally prepared investment reports more often than others, that the adequacy of the existing labour force is not of great importance, because South Africa has a large pool of manual workers. The perception therefore exists, especially among the institutions that often make use of externally prepared investment reports, that possible staff shortages at manual worker enterprises can be rectified easily.

2) Correlation amongst the company-specific labour-related risk factors

The investigation focused on significant correlation between the importance attached to company-specific labour-related risk factors in general and the importance of each main/key company-specific labour-related risk factor. In addition, the investigation targeted significant correlation between each main/key company-specific labour-related risk factor and its components. In other words, possible significant correlation amongst the components of a main labour-related risk factor (such as the track record of labour relations), as well as the correlation of these aspects with the components of another main labour-related risk factor (such as the legal framework in which labour relations are practised), was not investigated. This decision was taken because further refinement of the investigation would not add value to the study due to the large number of labour-related risk factors in the discussion guideline.

The correlation between these labour-related risk factors that is significant at the five per cent level is summarised in Table 4/31.

TABLE 4/31: SIGNIFICANT CORRELATION AMONGST THE COMPANY-SPECIFIC LABOUR-RELATED RISK FACTORS AS FAR AS *MANUAL* WORKERS ARE CONCERNED

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Track record of labour relations &				
• Causes of labour disputes and handling thereof	23	0,508	2,701	0,013
• Causes, extent and nature of employee turnover and absenteeism	23	0,663	4,063	0,001
• Timing of labour unrest	23	0,674	4,185	4,18E-04
• Historic trend of value that has been created, as well as the distribution thereof	23	0,543	2,962	0,007
Legal framework in which labour relations are practised &				
• Right of employees to strike	23	0,901	9,521	4,55E-09
• Flexibility of labour	23	0,566	3,149	0,005
• The creation of workplace forums in addition to the traditional collective bargaining structure	23	0,858	7,652	1,67E-07
The existence of sound labour relations practices &				
• Sharing of information between the employer and the employees	23	0,428	2,173	0,041
• Financial empowerment of the employees	23	0,460	2,375	0,027
• Reasonable working conditions	23	0,512	2,733	0,012
The availability of labour &				
• Adequacy of existing labour force	23	0,761	5,382	2,44E-05
• Likelihood of future labour shortages at the enterprise	23	0,651	3,933	0,001
Enterprise's view of the labour force &				
• Mission and strategy of enterprise	23	0,577	3,241	0,004
• Organisational culture	23	0,524	2,823	0,010
• Organisational structure	23	0,555	3,059	0,006
• Systems (policies and procedures)	23	0,575	3,218	0,004
Labour force's view of the enterprise &				
• Morale of the labour force	23	0,897	9,287	6,97E-09
• Attitude of the labour force	23	0,847	7,298	3,48E-07
• Labour climate within the enterprise	23	0,860	7,729	1,42E-07
• Culture of the labour force	23	0,759	5,338	2,71E-05

Source: Responses to questions C4 and C6 of the discussion guideline.

The importance of the track record of labour relations as a labour-related risk factor is positively correlated with the importance of the causes of labour disputes and handling thereof (correlation coefficient of 0,508 and p-value of 0,013), the importance of the causes, extent and nature of employee turnover and absenteeism (correlation coefficient of 0,663 and p-value of 0,001), the importance of the timing of labour unrest (correlation coefficient of 0,674 and p-value of 4,18E-04), and the importance of the historic trend of value that has

been created and the distribution thereof (correlation coefficient of 0,543 and p-value of 0,007). All components of the track record of labour relations are therefore significantly and positively correlated with it. This is not unexpected, because all of them reflect valuable information about the track record of labour relations.

The second group of correlations in Table 4/31 refers to the components of the legal framework in which labour relations are practised and which are significantly correlated with it. These components include the importance of the right of employees to strike (correlation coefficient of 0,901 and p-value of 4,55E-09), the importance of the flexibility of labour (correlation coefficient of 0,566 and p-value of 0,005), and the importance of the creation of workplace forums which exist in addition to the traditional collective bargaining structures (correlation coefficient of 0,858 and p-value of 1,67E-07). The correlation in these cases does not come as a surprise, because all of them are important components of the legal framework in which labour relations are practised.

The importance of sound labour relations practices as a labour-related risk factor is positively correlated with the importance of sharing information between the employer and the employees (correlation coefficient of 0,428 and p-value of 0,041), the importance of financial empowerment of the employees (correlation coefficient of 0,460 and p-value of 0,027), and the importance of the existence of reasonable working conditions (correlation coefficient of 0,512 and p-value of 0,012). Increases in the importance of the existence of sound labour relations practices as a labour-related risk factor are therefore correlated with increases in the importance of the above-mentioned labour-related risk factors, which are important components of sound labour relations practices.

The importance of the availability of labour as a labour-related risk factor is positively correlated with the importance that respondents assigned to the adequacy of the existing labour force as a labour-related risk factor (correlation coefficient of 0,761 and p-value of 2,44E-05), and with how important they regarded the likelihood of future labour shortages at the enterprise to be as a further labour-related risk factor (correlation coefficient of 0,651 and p-value of 0,001).

The importance of the enterprise's view of the labour force as a labour-related risk factor is positively correlated with the importance of the mission and strategy of the enterprise

(correlation coefficient of 0,577 and p-value of 0,004), the organisational culture (correlation coefficient of 0,524 and p-value of 0,010), the organisational structure (correlation coefficient of 0,555 and p-value of 0,006), and the importance of systems (policies and procedures) in the enterprise (correlation coefficient of 0,575 and p-value of 0,004). The respondents who emphasised the importance of the enterprise's view of the labour force as a labour-related risk factor therefore tended to focus on a limited number of key aspects in order to formulate an opinion in this regard.

The importance of the labour force's view of the enterprise is significantly correlated with the importance of the morale of the labour force (correlation coefficient of 0,897 and p-value of 6,97E-09), the attitude of the labour force (correlation coefficient of 0,847 and p-value of 3,48E-07), the labour climate within the enterprise (correlation coefficient of 0,860 and p-value of 1,42E-07), and the importance of the culture of the labour force (correlation coefficient of 0,759 and p-value of 2,71E-05). This indicates that the labour force's view of the enterprise is significantly correlated with all of its components and that the correlation in all cases is exceptionally strong.

4.4.2.3 Correlation as far as *knowledge* workers are concerned

Correlation in respect of knowledge workers that is significant at the five per cent level receives attention in what follows. In particular, the focus is on significant correlation between the aspects relating to the company-specific labour-related risk factors and the general information obtained, as well as with those aspects relating to the financial investment decision-making process. The correlation between these aspects is highlighted in the first subsection hereunder. Correlation amongst the aspects relating to the company-specific labour-related risk factors is discussed under the second subsection below.

1) Correlation of the company-specific labour-related risk factors with the general information obtained, as well as with the aspects relating to the financial investment decision-making process

The significant correlation between these aspects is summarised in Table 4/32.

TABLE 4/32: CORRELATION OF THE ASPECTS THAT HAVE TO BE CONSIDERED WHEN A DETAILED STUDY OF LABOUR-RELATED RISKS IN *KNOWLEDGE* WORKER ENTERPRISES IS UNDERTAKEN FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING WITH THE GENERAL INFORMATION OBTAINED, AS WELL AS WITH THE ASPECTS RELATING TO THE FINANCIAL INVESTMENT DECISION-MAKING PROCESS

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Years of experience of financial investment decision-making &				
• Sharing of information between the employer and the employees	23	0,422	2,133	0,045
• Contingent liabilities for the enterprise in respect of the labour force	23	0,478	2,493	0,021
Number of companies monitored &				
• Timing of labour unrest	23	0,506	2,685	0,014
• Adequacy of the existing labour force in quantitative and qualitative terms	23	-0,445	-2,277	0,033
Number of companies monitored / Number of investment practitioners employed &				
• Existence of sound labour relations practices	23	-0,426	-2,157	0,043
• Participation of the employees in decision-making	23	-0,525	-2,823	0,010
• Sharing of information between the employer and the employees	23	-0,650	-3,919	0,001
• Financial empowerment of the employees	23	-0,433	-2,203	0,039
• Reasonable working conditions	23	-0,496	-2,617	0,016
• Attitude of the labour force	23	-0,429	-2,174	0,041
Practice of doing independent research & Organisational structure	23	0,421	2,128	0,045
Use of investment reports prepared by external researchers & Development of human resources	23	-0,437	-2,223	0,037

Source: Responses to questions in sections A and B, and question C6 of the discussion guideline as well as the financial statements of the long-term insurers for the financial year-ends between December 1997 and December 1998.

The first two correlations in the above table refer to the labour-related risk factors that are significantly correlated with the investment practitioners' years of experience of financial investment decision-making. The importance of the sharing of information between the employer and the employees is the first of these to significantly correlate with the years of

experience of financial investment decision-making held by the investment practitioners (correlation coefficient of 0,422 and p-value of 0,045). The sharing of information between the employer and the employees therefore tends to be regarded as of increasing importance as the respondents' experience of financial investment decision-making increases. This is of particular importance in knowledge worker enterprises where people are primarily employed to apply ideas, concepts and information to productive work. The years of experience of financial investment decision-making is also positively correlated with the importance of the enterprise's contingent liabilities in respect of the labour force (correlation coefficient of 0,478 and p-value of 0,021). The tendency for this labour-related risk factor to increase in importance as the number of years of investment experience increases, indicates that the experienced investment practitioners are more concerned about this aspect than their less experienced counterparts. Contingent liabilities in this regard refer to obligations that the enterprise might have in respect of employees (as a result of the agreed employment relationship) after they have ceased to contribute to enterprise performance. Contingent liabilities in this regard include potential claims by present and former employees which are based on negotiated agreements between them and the enterprise.

The second group of correlations in Table 4/32 firstly refers to the positive correlation between the number of companies monitored and the importance of the timing of labour unrest as a labour-related risk factor (correlation coefficient of 0,506 and p-value of 0,014). It is clear that, as the number of companies monitored increases, investment practitioners may become more sensitive about the timing of labour unrest which may have a detrimental impact on numerous financial investments. It also includes the negative correlation between the number of companies monitored and the importance of the adequacy of the existing labour force in both quantitative and qualitative terms (correlation coefficient of -0,445 and p-value of 0,033). The latter correlation is reported, but cannot be explained logically, except that time constraints may perhaps play a part in this regard.

The number of companies monitored by each investment practitioner is negatively correlated with the importance of the following labour-related risk factors:

- The existence of sound labour relations practices (correlation coefficient of -0,426 and p-value of 0,043),

- the participation of the employees in decision-making (correlation coefficient of -0,525 and p-value of 0,010),
- the sharing of information between the employer and the employees (correlation coefficient of -0,650 and p-value of 0,001),
- the financial empowerment of the employees (correlation coefficient of -0,433 and p-value of 0,039),
- reasonable working conditions (correlation coefficient of -0,496 and p-value of 0,016), and
- the attitude of the labour force (correlation coefficient of -0,429 and p-value of 0,041).

These results can be interpreted as a tendency among the investment practitioners to put greater emphasis on these labour-related risk factors as the number of companies monitored decreases. In other words, these labour-related risk factors tend to receive more attention as the time that investment practitioners have available for analysing each company increases. The correlation between these aspects therefore primarily results from time constraints with which the investment practitioners are faced.

The practice of doing independent research is positively correlated with the importance of the organisational structure as a labour-related risk factor (correlation coefficient of 0,421 and p-value of 0,045). This indicates that the organisational structure tends to be regarded as of greater importance as the practice of doing independent research increases. Investment practitioners who do a lot of independent research are therefore particularly concerned about whether knowledge worker enterprises have the appropriate organisational structures to assure the effective implementation of each enterprise's mission and strategy in a fast changing business environment.

The last correlation in the above table refers to the negative correlation that exists between the use of investment reports prepared by external researchers and the importance of the development of human resources as a labour-related risk factor (correlation coefficient of -0,437 and p-value of 0,037). This indicates that, as less use is made of investment reports prepared by external researchers, the development of human resources tends to be regarded as being of increasing importance by the investment practitioners. The investment practitioners who do not rely much on these reports, tend to emphasise the importance of skills for knowledge workers, as well as the responsibility of the enterprise to provide employees with

appropriate opportunities to develop. The fact that investment practitioners who make extensive use of externally prepared investment reports do not pay much attention to this risk factor, indicates that the contents of these reports may meet their information requirements.

2) Correlation amongst the company-specific labour-related risk factors

The investigation focused on significant correlation between the importance attached to company-specific labour-related risk factors in general and the importance of each main/key company-specific labour-related risk factor. In addition, the investigation targeted significant correlation between each main/key company-specific labour-related risk factor and its components. In other words, possible significant correlation amongst the components of a main labour-related risk factor (such as the track record of labour relations), as well as the correlation of these aspects with the components of another main labour-related risk factor (such as the legal framework in which labour relations are practised), was not investigated. This decision was taken because further refinement of the investigation would not add value to the study due to the large number of labour-related risk factors in the discussion guideline.

The correlation between these aspects that is significant at the five per cent level is summarised in Table 4/33.

TABLE 4/33: SUMMARY OF SIGNIFICANT CORRELATION AMONGST THE COMPANY-SPECIFIC LABOUR-RELATED RISK FACTORS AS FAR AS *KNOWLEDGE* WORKERS ARE CONCERNED

Description	Number	Spearman's rank-order coefficient	Student t (n-2)	Probability-level
Company-specific labour-related risk factors &				
• Track record of labour relations	23	0,583	3,292	0,003
• Existence of behavioural agreements	23	0,462	2,387	0,026
• The availability of labour	23	0,574	3,215	0,004
• Labour force's view of the enterprise	23	0,681	4,258	3,51E-04
Track record of labour relations &				
• Causes of labour disputes and handling thereof	23	0,722	4,780	1,01E-04
• Historic trend of value that has been created, as well as the distribution thereof	23	0,516	2,759	0,012
• Causes, extent and nature of employee turnover and absenteeism	23	0,750	5,191	3,83E-05
Legal framework in which labour relations are practised &				
• Flexibility of labour	23	0,631	3,732	0,001
• The creation of workplace forums in addition to the traditional collective bargaining structure	23	0,557	3,071	0,006
The existence of sound labour relations practices &				
• Participation of the employees in decision-making	23	0,561	3,105	0,005
• Sharing of information between the employer and the employees	23	0,527	2,844	0,010
The availability of labour &				
• Adequacy of existing labour force	23	0,789	5,881	7,74E-06
• Likelihood of future labour shortages at the enterprise	23	0,819	6,531	1,81E-06
• Enterprise interventions to reduce risk of an insufficient external labour supply	23	0,720	4,749	1,09E-04
Enterprise's view of the labour force &				
• Mission and strategy of enterprise	23	0,630	3,718	0,001
• Organisational culture	23	0,710	4,618	1,48E-04
• Leadership's approach to the labour force	23	0,540	2,944	0,008
Labour force's view of the enterprise &				
• Morale of the labour force	23	0,850	7,387	2,89E-07
• Attitude of the labour force	23	0,763	5,404	2,33E-05
• Labour climate within the enterprise	23	0,839	7,059	5,76E-07
• Culture of the labour force	23	0,595	3,396	0,003

Source: Responses to questions C4 and C6 of the discussion guideline.

The discussion guideline referred to the importance of company-specific labour-related risks in general (question C-4 of the discussion guideline). In question C-6, respondents were

requested to comment on the importance of each of the company-specific labour-related risk factors. In this regard, reference was made to the main company-specific labour-related risk factors (refer to the shaded areas of question C-6), as well as to the labour-related aspects which are part of each of the main company-specific labour-related risk factors. The first four correlations in Table 4/33 refer to the importance of the main company-specific labour-related risk factors that are significantly correlated with the importance of company-specific risks in general. Thereafter attention is shifted to significant correlation between each of the main labour-related risk factors and the aspects that are part of each main risk factor.

The importance of company-specific labour-related risks in general is significantly correlated with the importance of the track record of labour relations (correlation coefficient of 0,583 and p-value of 0,003), the importance of the existence of behavioural agreements (correlation coefficient of 0,462 and p-value of 0,026), the importance of the availability of labour (correlation coefficient of 0,574 and p-value of 0,004), and with the importance of the labour force's view of the enterprise (correlation coefficient of 0,681 and p-value of 3,51E-04). This implies that, as the respondents put more emphasis on the importance of company-specific labour-related risks in general, the above-mentioned main labour-related risk factors also tend to be regarded as of more importance.

Attention is now shifted to significant correlation between the main labour-related risk factors and the labour-related aspects they include. The importance of the track record of labour relations as a labour-related risk factor is positively correlated with the importance of the following labour-related risk factors:

- The causes of labour disputes and the handling thereof (correlation coefficient of 0,722 and p-value of 1,01E-04),
- the historic trend of value that has been created, as well as the distribution thereof (correlation coefficient of 0,516 and p-value of 0,012), and
- the causes, extent and nature of employee turnover and absenteeism (correlation coefficient of 0,750 and p-value of 3,83E-05).

Comparison of the correlation between these aspects indicates that there is a strong correlation between the track record of labour relations and the causes, extent and nature of employee turnover and absenteeism. This implies that, as more emphasis is placed on the track record of labour relations, respondents become increasingly concerned about employee

turnover and absenteeism. In this regard, it is important to note that the focus is not only on employee turnover and absenteeism as important labour-related risk indicators, but also on the causes and nature thereof. The strong correlation between the importance of the track record of labour relations and the importance of the causes of labour disputes and the handling thereof, as well as the importance of the historic trend of value that has been created and the distribution thereof, is therefore not unexpected.

The next group of correlations in Table 4/33 focuses the attention on the significant positive correlation between the importance of the legal framework in which labour relations are practised as a labour-related risk factor, and the importance of the flexibility of labour (correlation coefficient of 0,631 and p-value of 0,001) and the importance of the creation of workplace forums in addition to the traditional collective bargaining structure (correlation coefficient of 0,557 and p-value of 0,006) as labour-related risk factors. Based on the correlation between these aspects, it becomes apparent that increasing concerns about the legal framework in which labour relations are practised are correlated with more concerns regarding the ability of knowledge worker enterprises to alter the size of their work forces, as well as increasing importance of workplace forums in an environment where swift decision-making is vital for survival in a rapidly changing business environment.

The importance of the existence of sound labour relations practices is significantly correlated with the importance of the participation of the employees in decision-making (correlation coefficient of 0,561 and p-value of 0,005), and with the importance of sharing of information between the employer and the employees (correlation coefficient of 0,527 and p-value of 0,010). The participation of employees in decision-making and information sharing in the enterprise therefore becomes increasingly important as more emphasis is placed on the importance of sound labour relations practices.

The importance of the availability of labour as a labour-related risk factor is positively correlated with the importance of the following risk factors:

- The adequacy of the existing labour force (correlation coefficient of 0,789 and p-value of 7,74E-06),
- the likelihood of future labour shortages at the enterprise (correlation coefficient of 0,819 and p-value of 1,81E-06), and

- enterprise interventions to reduce the risk of an insufficient external labour supply (correlation coefficient of 0,720 and p-value of 1,09E-04).

In other words, when the importance of the availability of labour increases, the importance of its components also increases.

The importance of the enterprise's view of the labour force as a labour-related risk factor is positively correlated with the importance of the following risk factors:

- The mission and strategy of the enterprise (correlation coefficient of 0,630 and p-value of 0,001),
- organisational culture (correlation coefficient of 0,710 and p-value of 1,48E-04), and
- the leadership's approach to the labour force (correlation coefficient of 0,540 and p-value of 0,008).

The importance of the enterprise's view of the labour force is therefore significantly correlated with risk factors that are difficult to influence or change.

The last group of correlations in Table 4/33 refers to the significant correlation between the importance of the labour force's view of the enterprise as a labour-related risk factor and the importance of the following risk factors:

- The morale of the labour force (correlation coefficient of 0,850 and p-value of 2,89E-07),
- the attitude of the labour force (correlation coefficient of 0,763 and p-value of 2,33E-05),
- the labour climate within the enterprise (correlation coefficient of 0,839 and p-value of 5,76E-07), and
- the culture of the labour force (correlation coefficient of 0,595 and p-value of 0,003).

These aspects represent the whole spectrum of labour-related risk factors that reflect the labour force's view of the enterprise.

4.5 Ranking of labour-related aspects by the respondents in order of their significance when they determine the degree of labour-related risk at enterprises

The survey results reported thus far primarily focused on general information about the institutions interviewed, the financial investment decision-making process to which they adhere, and their responses regarding the importance of labour-related risk factors for the purpose of financial investment decision-making. The next section of the discussion

guideline (section D) had as objective to go one step further and requested the respondents to rank the generic labour-related aspects, which were identified during the literature study, in order of significance when they determined the degree of labour-related risk at enterprises (where the most important aspect is ranked 1 and the least important aspect 7). These generic labour-related aspects are a summary of the large number of labour-related risk factors identified in the literature study (refer to the summary at the end of Chapter 3). The respondents therefore had to differentiate between the different labour-related aspects based on their significance for financial investment decision-making and could not (as was possible in the preceding section of the discussion guideline) reply that some of the labour-related aspects were of equal importance. Therefore restricted ranking was applied. Given the different features of manual and knowledge worker enterprises, the respondents were asked to rank the labour-related aspects separately in order of their significance for each of these two types of enterprises.

The same methodology was followed for both manual and knowledge worker enterprises to make it possible to rank the labour-related aspects in order of their significance on the basis of responses obtained during the 23 interviews. The first method involved ranking the labour-related aspects by calculating the mean response in respect of each of the seven aspects (refer to Tables 4/34 and 4/35) which were identified as being of significance when the degree of labour-related risk at enterprises was determined. The labour-related aspect with the lowest mean (in terms of the ranking) can be regarded as the most critical one, after which they become less critical, until the labour-related aspect with the highest mean is reached (the latter is the least critical aspect when the degree of labour-related risk at enterprises is determined). In order to test the reliability of the ranking based on the mean responses, it was decided to also rank the labour-related aspects in order of their significance on the basis of the votes which each obtained as "the more critical one". In other words, the votes were scrutinised to determine how many times each of the labour-related aspects were ranked as of more significance than the remaining six labour-related aspects (refer to the sign test and the Wilcoxon matched-pairs test in Lentner, 1982:229 for a discussion of the methodology followed in this regard).

The ranking based on the votes that each labour-related aspect obtained as “the more critical one”, can best be illustrated by referring to the following example which reflects how three respondents (referred to as I, II and III) ranked an equivalent number of labour-related

aspects (referred to as A, B and C) in order of their significance to determine the degree of labour-related risk at an enterprise (where the most important aspect is ranked 1 and the least important aspect 3):

Aspects which are of significance	Respondents		
	I	II	III
A	2	3	1
B	1	1	2
C	3	2	3

In order to determine how many times each of the labour-related aspects are ranked as being of more significance than the remaining two aspects, the above information is re-stated as follows, while the discussion follows thereafter:

Aspects which are of significance	First remaining aspect	Second remaining aspect	Votes obtained as "the more critical one"	Rank
A	1	2	3	2
B	2	3	5	1
C	1	0	1	3

The votes which each labour-related aspect obtains as "the more critical one", is determined by the number of times each of them is ranked as being of more significance than the remaining aspects. Aspect A, for example, obtains one vote (by respondent III) as "the more critical one" when compared with the first remaining aspect, namely B. Aspect A obtains two votes (by respondents I and III) as "the more critical one" when compared with the second remaining aspect, namely C. These votes are added to determine the number of votes obtained by A as "the more critical one" when compared with B and C (being the first and second remaining aspects respectively). The same process is followed in respect of B (where A is the first and C the second remaining aspect) and C (where A is the first and B the second remaining aspect). Completion of this process results in three, five and one votes respectively as "the more critical one" for labour-related aspects A, B and C. The labour-related aspect with the highest number of votes "as the more critical one" can be regarded as the most critical aspect, after which the labour-related aspects become less critical, in keeping with the decreasing number of votes obtained. The labour-related aspect that obtains the lowest number of votes as "the more critical one" can be regarded as the least critical labour-related aspect. Based on this approach, B should be regarded as the most critical aspect, A as the second most critical one, and C as the least critical aspect.

The rankings obtained on the basis of the mean response in respect of each of the seven labour-related aspects and the votes which each aspect obtained as "the more critical one", were subsequently compared to determine whether both methods yielded the same results. Given the different rankings that occurred in the case of manual worker enterprises, an effort was made to further improve on the ranking on the basis of means by calculating weighted means. The means were weighted on the basis of investment practitioners' years of experience of financial investment analysis or decision-making. This approach was regarded as appropriate because, realistically speaking, experienced investment practitioners should be able to judge labour-related risks better than those who entered the field of financial investment decision-making only recently. The decision to base the ranking on weighted means had the desired effect, because it resulted in the same ranking as was obtained when focusing on the votes obtained as "the more critical one".

In what follows, the survey results are presented separately for manual and knowledge worker enterprises. Thereafter the survey results in respect of manual worker enterprises are compared with knowledge worker enterprises and briefly commented on in order to highlight the extent of differences between the two enterprise types as reported by the respondents.

Please note that the focus is exclusively on the ranking of the labour-related aspects (and not on their correlation with all of the labour-related risk factors identified in the literature study). This is regarded as the appropriate approach, because restricted ranking is used in the ranking section. It would therefore be of little value to comment in detail on correlation between these aspects, while knowing that a potentially large number might be excluded from the discussion solely as a result of the restricted ranking which was used in the ranking section. The focus in this section will remain on the ranking of the labour-related aspects and the interpretation thereof. In the next chapter, the focus will not be on the reporting and interpretation of the survey results, but rather on how the results can be used to measure labour-related risks at enterprises.

4.5.1 Ranking of the labour-related aspects in order of their significance when the degree of labour-related risk at *manual* worker enterprises is determined

As was previously mentioned, three methods were used to combine the opinions of the 23 respondents and rank the labour-related aspects in order of their significance when the degree

of labour-risk at enterprises was determined. These methods included a ranking based on the mean response, a ranking based on the number of votes that each labour-related aspect obtained as "the more critical one", and a ranking based on the weighted mean response (the number of years' experience of financial investment analysis or decision-making of each of the respondents was used to weigh the responses) for each of the labour-related aspects. These results are summarised in Table 4/34.

TABLE 4/34: DETERMINATION OF THE DEGREE OF SIGNIFICANCE OF LABOUR-RELATED ASPECTS AT *MANUAL* WORKER ENTERPRISES

Aspects which are of significance	Mean	Rank according to the means	Votes obtained as "the more critical one"	Rank according to the votes obtained as "the more critical" one	Weighted means	Rank according to the weighted means
Labour force is of importance for the operations of the enterprise	1,2	1	134	1	1,2	1
Values and goals of leadership or management differ from those of the rest of the labour force	3,8	3	70	3	3,8	3
Enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	2,8	2	97	2	2,8	2
Structure and systems of the enterprise create and sustain an unfavourable work environment	4,6	4	56	5	4,7	5
Legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	4,7	5	57	4	4,6	4
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	6,2	7	19	7	6,2	7
Enterprise is characterised by an unfavourable external environment with adverse labour relations implications	4,8	6	50	6	4,9	6

Source: Statistical calculations were based on responses to question D1 of discussion guideline.

The ranking based on means and the ranking based on the number of votes obtained as "the more critical one" yield the same results, except for the fourth and fifth labour-related aspects. The ranking based on means ranks the structure and systems of the enterprise that may create and sustain an unfavourable work environment as the fourth most significant labour-related aspect, while the legal framework which creates a power imbalance in favour

of the labour force, is ranked as the fifth most significant labour-related aspect. The ranking based on the number of votes obtained as "the more critical one" ranks these two labour-related aspects the other way round. Closer analysis indicates that the differences between these two labour-related aspects are marginal, irrespective of whether the ranking is based on means or whether it is based on the number of votes obtained as "the more critical one". This becomes obvious when cognisance is taken of the fact that the mean in respect of the legal framework which creates a power imbalance in favour of the labour force exceeded that of the structure and systems of the enterprise which may create and sustain an unfavourable work environment by only 0,1 (difference between 4,7 and 4,6), while the latter labour-related aspect obtained only one vote fewer as "the more critical one" than the legal framework which creates a power imbalance in favour of the labour force (difference between 57 and 56). Given the small differences in significance that accompanied the different rankings, a decision was taken to make use of a third ranking method to decide which ranking should be accepted as the more appropriate. The third ranking method made use of weighted means (the means were weighted by the investment practitioners' years of experience of financial investment analysis or decision-making). This method resulted in the same ranking as was obtained by comparing the votes obtained by each labour-related aspect as "the more critical one". Given this result, the ranking based on the number of votes obtained as "the more critical one" can be regarded as an appropriate ranking of the labour-related aspects, since it is confirmed by the ranking based on weighted means which takes the financial investment experience into account.

Perusal of the ranking based on the votes which each labour-related aspect received as "the more critical one" provides valuable insight into the thought process which institutional investors follow when they determine the degree of labour-related risk at manual worker enterprises. It is interesting to note that labour-related aspects internal to the enterprise are generally perceived to be of more significance than labour-related aspects that are external to the enterprise. This becomes obvious if account is taken of the fact that the labour-related aspects which are ranked first, second, third and fifth can be regarded as internal to the enterprise, while the labour-related aspects which are external to the enterprise could only achieve the fourth, sixth and seventh places. This implies a perception among the respondents that the labour-related aspects which are of particular significance when the degree of labour-related risk at manual worker enterprises is determined, can be managed and is not beyond the control of these enterprises. Those labour-related aspects that are external

to the enterprise and beyond the control of enterprises are generally perceived to be of less significance. Management and the rest of the labour force in manual worker enterprises are therefore responsible for the maintenance of healthy labour relationships. This does not imply that it is easy to maintain healthy labour relationships in manual worker enterprises, because some labour-related aspects that are internal to the enterprise are harder to influence than others. With this in mind, it is necessary to pay closer attention to the ranking of the labour-related aspects.

As can be seen in Table 4/34, the importance of the labour force to the operations of the enterprise (which obtained 134 votes as "the more critical one") is regarded as the most critical labour-related aspect when the degree of labour-related risk at manual worker enterprises is determined. This is not unexpected, because it has an impact on the significance of the remaining labour-related aspects when the degree of labour-related risk at enterprises is determined. From a labour-related risk point of view, an enterprise with a labour force that is of great importance to its operations has an immediate higher risk profile than an enterprise with a labour force that is not of importance to its operations. The importance of the labour force to the operations of the enterprise is not only influenced by obvious aspects such as the relative size of the labour force and its relative share of the annual value created in the enterprise, but also by aspects that have potential to increase the importance of the labour force for the operations of the enterprise. Unionisation, one or more subsectors in the labour force which are of critical importance to the operations of the enterprise, capital intensity and capital structure are important examples in this regard which have to be considered in conjunction with historic labour stability at the enterprise. Reducing the labour force by introducing a more capital intensive production process might therefore not be enough to lessen the importance of the labour force to the operations of the enterprise.

Dislikes, prejudices and perceived inequalities in the enterprise which are fuelled by management and labour relations practices (which obtained 97 votes as "the more critical one") is the second most critical aspect which has to be assessed when the degree of labour-related risk at enterprises is determined. The respondents were therefore of the opinion that manual workers' experience of their immediate work environment was of particular importance when the degree of labour-related risk at enterprises was determined. This emphasises the important role of management in reducing labour-related risks in manual worker enterprises. In this regard, management should focus on the appropriateness of their

management style, given the needs of the enterprise and the labour force, in order to limit the occurrence of dislikes, prejudices and perceived inequalities. In essence, this boils down to what managers do in the normal course of events, which is to use the human resources at their disposal to carry out the enterprise's strategy and to determine whether this treatment is perceived as fair by manual workers. It is important to note that this labour-related aspect is not beyond the control of the enterprise, because management style and the management and labour relations practices that reflect it, can be changed.

With 70 votes obtained as "the more critical one", values and goals of leadership or management which differ from those of the rest of the labour force, is the third most critical aspect which has to be assessed when the degree of labour-related risk at enterprises is determined. Values refer to firmly held beliefs that guide people's behaviour. Different values which exist between leadership or management and the rest of the labour force are therefore far more deep-seated and difficult to change than the second most critical aspect (being dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices). The difference of 27 in the number of votes obtained as "the more critical one" between these two labour-related aspects indicates that the respondents were strongly of the opinion that the limitation of dislikes, prejudices and inequalities in the enterprise by means of appropriate management and labour relations practices would have a more beneficial impact on the risk profile of manual worker enterprises than efforts to align the values and goals of leadership or management with those of the rest of the labour force. This approach is not only the result of pragmatism among the respondents (pragmatism, because they are of the opinion that the focus in manual worker enterprises should firstly be on those labour-related aspects which can be changed easily, before aspects which are more difficult to change are tackled), but also a result of a possible perception among them that manual workers tend to first focus on their immediate work environment, where management practices are of paramount importance, before attention is given to different values and goals between them and leadership or management. It can also be attributed to the belief among the respondents that, given the diversity in the South African society, which is characterised by different cultural groups with different values and goals, attitudes reflected by management and labour relations practices are of significant importance to reduce labour-related risks in manual worker enterprises.

The votes obtained as "the more critical one" by the labour-related aspects ranked fourth, fifth and sixth do not differ much and therefore these aspects are discussed jointly. The legal framework that creates a power imbalance in favour of the labour force thereby resulting in contingent liabilities for the enterprise, is the first of these and it obtained 57 votes as "the more critical one". This is closely followed by the structure and systems (policies and procedures) of the enterprise which create and sustain an unfavourable work environment, which obtained 56 votes as "the more critical one". The next labour-related aspect obtained 50 votes as "the more critical one" and it refers to an unfavourable external environment with adverse labour relations implications. Of these three labour-related aspects, only the structure and systems (policies and procedures) of the enterprise, which create and sustain an unfavourable work environment, are internal and can therefore be directly influenced by the enterprise. The legal framework and the external environment in general are external to the enterprise and can therefore not be directly influenced. It is interesting to note that although the legal framework is ranked two places higher than the enterprise as characterised by an unfavourable external environment, the difference in the votes obtained as "the more critical one" between these two labour-related aspects only amount to seven. Nothwithstanding the small difference in significance between these two labour-related aspects, it will pay manual worker enterprises to focus their efforts on the legal framework in order to create a more investor friendly business environment. Improvements in this regard will not only have a beneficial impact on the risk profile of manual worker enterprises, but probably be easier to achieve than to be instrumental in changing the external environment for the better.

Labour shortages in quantitative and/or qualitative terms due to an insufficient internal or external supply of labour are ranked the least critical of all labour-related aspects which are considered to determine the degree of labour-related risk at manual worker enterprises. In addition, the 19 votes which were obtained as "the more critical one" are far fewer than the 50 votes which the second last labour-related aspect obtained as "the more critical one". Possible labour shortages in future are therefore also perceived to be of far less significance than an unfavourable external environment with adverse labour relations implications when the degree of labour-related risk at manual worker enterprises is determined. Work done by manual worker enterprises to enhance the future internal and/or external supply of labour will therefore receive little recognition by institutional investors when they determine the degree of labour-related risk at these enterprises. This can be attributed to the oversupply of manual workers in South Africa.

4.5.2 Ranking of the labour-related aspects in order of their significance when the degree of labour-related risk at *knowledge* worker enterprises is determined

As in the previous section when labour-related aspects were ranked in order of their significance when the degree of labour-related risk at manual worker enterprises was determined, three methods are used to combine the opinions of the 23 respondents and rank the labour-related aspects in order of their significance when the degree of labour-related risk at knowledge worker enterprises is determined. These methods are a ranking based on the mean response, a ranking based on the number of votes which each labour-related aspect obtained as "the more critical one", and a ranking based on the weighted mean response (the number of years experience of financial investment analysis or decision-making of each of the respondents was used to weigh the responses) in respect of each of the labour-related aspects. These results are summarised in Table 4/35.

TABLE 4/35: DETERMINATION OF THE DEGREE OF SIGNIFICANCE OF LABOUR-RELATED ASPECTS AT *KNOWLEDGE* WORKER ENTERPRISES

Aspects which are of significance	Mean	Rank according to the means	Votes obtained as "the more critical one"	Rank according to the votes obtained as "the more critical" one	Weighted means	Rank according to the weighted means
Labour force is of importance for the operations of the enterprise	1,5	1	126	1	1,6	1
Values and goals of leadership or management differ from those of the rest of the labour force	2,9	2	94	2	2,9	2
Enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	4,2	4	65	4	4,1	4
Structure and systems of the enterprise create and sustain an unfavourable work environment	4,8	5	50	5	4,8	5
Legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	6,1	7	20	7	6,2	7
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	3,1	3	89	3	3,3	3
Enterprise is characterised by an unfavourable external environment with adverse labour relations implications	5,3	6	39	6	5,2	6

Source: The statistical calculations were based on the responses to question D1 of the discussion guideline.

The information contained in the above table illustrates that the labour-related aspects are ranked similarly by all three of the methods used in this regard. This implies that there are no borderline cases and that all of the labour-related aspects are without doubt ranked appropriately. It is also interesting to note that the most critical labour-related aspects which have to be considered when the degree of labour-related risk at knowledge worker enterprises

is determined, are internal to these enterprises and can be managed. With this in mind, the focus can be shifted to the ranking of each of the labour-related aspects.

The importance of the labour force to the operations of the enterprise (which obtained 126 votes as "the more critical one") is regarded as the most critical labour-related aspect when the degree of labour-related risk at knowledge worker enterprises is determined. The impact of the remaining labour-related aspects on the degree of labour-related risk at knowledge worker enterprises can therefore only be determined once the importance of the labour force for the operations of the enterprise has been determined. The prominence granted to this labour-related aspect indicates that the respondents are well aware that the relative size of the labour force is not the only labour-related risk factor to be considered in this regard, because employees of knowledge enterprises who are difficult to replace, might have a significant impact on the importance of the labour force to the operations of the enterprise.

With 94 votes obtained as "the more critical one", values and goals of leadership or management which differ from those of the rest of the labour force, is the second most critical aspect which has to be assessed when the degree of labour-related risk at knowledge worker enterprises is determined. This highlights the perception among the respondents that strategic issues are of importance to knowledge workers and that they will find it difficult to perform to their full potential if they do not agree with the central purpose and the strategy of the enterprise to achieve that purpose over time. The same applies to the values that the enterprise stands for and that of its employees which boil down to firm beliefs that are difficult to alter. Labour-related risk factors that jeopardise harmonious values and goals between the enterprise and the employees therefore have the potential to significantly increase the degree of labour-related risk at knowledge worker enterprises. It is therefore important that knowledge worker enterprises focus on the reconciliation of different values and goals in the enterprise and communicate any progress in this regard, as well as the current state of affairs, to institutional investors.

With 89 votes obtained as "the more critical one", labour shortages in quantitative and/or qualitative terms that are likely to occur due to an insufficient internal or external supply of labour, are regarded as the third most critical labour-related aspect. The significance of this labour-related aspect in assessing the degree of labour-related risk at these enterprises becomes apparent when cognisance is taken of the fact that it obtained only five votes fewer

as "the more critical one" than the second most critical labour-related aspect which refers to different values and goals between leadership or management and the rest of the labour force. Possible labour shortages are therefore almost as significant a labour-related risk at knowledge worker enterprises as different values and goals between leadership or management and the rest of the labour force. The fact that different values and goals are difficult to reconcile, implies a concern among the respondents that knowledge worker enterprises will find it difficult to prevent labour shortages. This not only reflects the perceived availability of knowledge workers in South Africa, but may also indicate that the value of remedial actions such as training are at risk due to staff turnover and job opportunities in foreign countries.

With 65 votes obtained as "the more critical one", dislikes, prejudices and perceived inequalities in the enterprise which are fuelled by management and labour relations practices, is the fourth most critical aspect which has to be assessed when the degree of labour-related risk at knowledge worker enterprises is determined. The fact that this labour-related aspect obtained 29 votes fewer than the presence of different values and goals between leadership or management and the rest of the labour force, indicates a perception among the respondents that knowledge workers are more concerned about strategic issues than about their immediate work environment. The role of management and the risks posed by dislikes, prejudices and perceived inequalities in the enterprise are therefore not as critical as differences of opinion in the enterprise regarding fundamental aspects such as the goal of the enterprise and the core values that should be adhered to.

The structure and systems of the enterprise that create and sustain an unfavourable work environment is the fifth most critical labour-related aspect impacting on the degree of labour-related risk at knowledge worker enterprises. This labour-related aspect obtained 50 votes as "the more critical one", therefore 15 votes fewer than the number of votes obtained by the fourth most critical labour-related aspect. The structure and systems of an enterprise provide an insight into the prevailing management style and labour relations practices and therefore it is not unexpected that these two labour-related aspects are ranked close to each other.

With 39 votes obtained as "the more critical one", an unfavourable external environment with adverse labour relations implications is ranked second last as a significant labour-related aspect which has to be considered when the degree of labour-related risk at knowledge

worker enterprises is determined. The legal framework which creates a power imbalance in favour of the labour force, is regarded as the least significant labour-related aspect which has to be considered when the degree of labour-related risk at knowledge worker enterprises is determined (it only obtained 20 votes as "the more critical one"). The respondents are therefore of the opinion that, compared to the other labour-related aspects, the impact of the legal framework on the degree of labour-related risk at knowledge worker enterprises is not significant. This reflects a perception among the respondents that knowledge workers do not rely in the first place on the legal framework to strengthen their bargaining power with the enterprise, but rather use their marketable skills as a leveraging mechanism in negotiations with their employers.

4.5.3 Comparison of the ranking of labour-related aspects for *manual* worker enterprises with the ranking of these aspects for *knowledge* worker enterprises when the degree of labour-related risk at these enterprises is determined

The sign test (using a significance level of five per cent) is used to investigate whether the differences of opinion regarding the ranking of labour-related aspects by respondents for manual and knowledge worker enterprises are significant. The respondents' views in this regard are summarised in Table 4/36. For ease of reference, the ranking of the labour-related aspects in order of their significance (based on the votes obtained as "the more critical one") when the degree of labour-related risk at these two types of enterprises is determined, are repeated in the same table.

TABLE 4/36: COMPARISON OF THE RANKING OF LABOUR-RELATED ASPECTS FOR *MANUAL* WORKER ENTERPRISES WITH THE RANKING OF THESE ASPECTS FOR *KNOWLEDGE* WORKER ENTERPRISES WHEN THE DEGREE OF LABOUR-RELATED RISK AT THESE ENTERPRISES IS DETERMINED

Labour-related aspects which are of significance when the degree of labour-related risk at enterprises is determined	Manual workers	Knowledge workers	Sign test	
	Ranking based on the votes obtained as "the more critical one"	Ranking based on the votes obtained as "the more critical one"	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
Labour force is of importance for the operations of the enterprise	1	1	2/15/6	NS
Values and goals of leadership or management differ from those of the rest of the labour force	3	2	14/4/5	NS
Enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	2	4	1/5/17	S (1%)
Structure and systems of the enterprise create and sustain an unfavourable work environment	5	5	9/2/12	NS
Legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	4	7	2/6/15	S (5%)
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	7	3	20/2/1	S (1%)
Enterprise is characterised by an unfavourable external environment with adverse labour relations implications	6	6	8/3/12	NS

Source: The statistical calculations were done based on the responses to question D1 of the discussion guideline.

The information in the above table indicates that three labour-related aspects are ranked similarly for both manual and knowledge worker enterprises when the degree of labour-related risk at these enterprises is determined. In the case of one labour-related aspect (that is, where the values and goals of leadership or management differ from those of the rest of the labour force), the ranking differs, but according to the sign test the differences of opinion in this regard are not significant and the null hypothesis is not rejected. In addition to these labour-related aspects which are ranked equally and/or where the differences of opinion regarding the ranking are not significant, there are three labour-related aspects that are ranked

differently and the differences of opinion in respect of the rankings are significant. The latter labour-related aspects indicate to what extent manual and knowledge worker enterprises are assessed differently when the degree of labour-related risk at these enterprises is determined. In what follows, attention is paid to these differences, because it discloses valuable information about the extent to which a different approach is required by these two types of enterprises in order to improve their respective risk gradings.

The first of these labour-related aspects which (according to the respondents) has a profoundly different impact on the degree of labour-related risk at manual and knowledge worker enterprises, refers to dislikes, prejudices and perceived inequalities at enterprises which are fuelled by management and labour relations practices. In the case of manual worker enterprises, this is ranked as the second most critical aspect that has to be assessed when the degree of labour-related risk is determined, while, in the case of knowledge workers, it is ranked fourth and therefore perceived to be less critical. An analysis of the individual responses indicates that 17 of the respondents regarded it as more critical for manual than for knowledge worker enterprises, five respondents regarded it as of the same significance, while only one respondent mentioned that it was more critical for knowledge worker enterprises. The sign test indicates that the differences between the paired observations are significant at the one per cent level and the null hypothesis is therefore rejected. This implies a perception among the respondents that the workers' experience of the immediate work environment and what managers do in the normal course of events in using the human resources at their disposal, is a more critical labour-related aspect for manual than for knowledge worker enterprises when the degree of labour-related risk at these enterprises is determined.

The legal framework that creates a power imbalance in favour of the labour force thereby resulting in contingent liabilities for the enterprise, is the next labour-related aspect that has a different impact on the degree of labour-related risk at manual and knowledge worker enterprises. The respondents rank this as the fourth most critical aspect in the case of manual worker enterprises and as the seventh most critical aspect for knowledge worker enterprises when the degree of labour-related risk at these enterprises is determined. An analysis of the individual responses brings to light that 15 of the respondents regarded it as more critical for manual than for knowledge worker enterprises, six regarded it of the same significance, while two respondents were of the opinion that it was a more critical labour-related aspect for

knowledge worker enterprises. The sign test indicates that the differences between the paired observations are significant at the five per cent level and the null hypothesis is therefore rejected. The conclusion can therefore be made that the individual respondents regard the legal framework as a more critical labour-related aspect for manual than for knowledge worker enterprises. This reflects the perception among the respondents that manual workers rely more on the legal framework to strengthen their bargaining power with the enterprise than knowledge workers do. Changes in labour legislation should therefore have a more significant impact on the degree of labour-related risk in manual than in knowledge worker enterprises.

Labour shortages in quantitative and/or qualitative terms due to an insufficient internal or external supply of labour is the last labour-related aspect that has a markedly different impact on the degree of labour-related risk at manual worker enterprises when compared with knowledge worker enterprises. In the case of manual worker enterprises, it is regarded as the seventh most critical labour-related aspect, while in the case of knowledge worker enterprises it is regarded as the third most critical labour-related aspect. The perceived more significant impact of labour shortages on the degree of labour-related risk in knowledge worker enterprises compared to manual worker enterprises, is also apparent when the opinions of each of the individual respondents are analysed. Twenty of the respondents mentioned that it was a more critical labour-related aspect for knowledge than for manual worker enterprises, two respondents mentioned that it was of equal importance for both types of enterprises, while only one respondent mentioned that it was a more significant labour-related aspect for manual worker enterprises. Application of the sign test indicates that the differences between the paired responses are significant at the one per cent level and the null hypothesis is accordingly rejected. Both these measures (that is, the ranking of this labour-related aspect based on the votes obtained as "the more critical one", as well as the sign test which focuses on the differences of opinion in this regard) therefore highlight the perception that labour shortages are a more critical labour-related aspect for knowledge worker enterprises than for manual worker enterprises when the degree of labour-related risk at these enterprises is determined. This can be attributed to the perceived shortage of skilled workers and the oversupply of manual workers in the South African economy. Knowledge worker enterprises who allay the fears of institutional investors in this regard, therefore stand to gain more in terms of a significantly lower degree of labour-related risk when compared with their peers who struggle to cope with this labour-related aspect.

4.6 Information relating to the *relative importance* of labour-related risks for the purpose of financial investment decision-making

Labour-related risks are one of many aspects that have to be considered when financial investment decisions are taken. It was therefore thought necessary to put labour-related risks into perspective by requesting the respondents to disclose how important they regarded labour-related risks to be for the purpose of financial investment decision-making. In order to move beyond static information, they were also asked whether they were of the opinion that labour-related risks had increased in importance during the past five years and whether they thought that these risks would become more important during the next five years. The responses to these questions will now receive the necessary attention.

TABLE 4/37: RESPONSES REGARDING THE *RELATIVE IMPORTANCE* OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

	Manual workers	Knowledge workers	Sign test	
	Mean	Mean	Responses below / on / above the diagonal line	Differences in opinion are not significant ("NS") or significant ("S")
Importance of labour-related risks for the purpose of financial investment decision-making	3,18	3,65	5/5/13	NS

Source: Question E-1 of the discussion guideline.
Note: The discussion guideline made use of the following ordinal scale:
1 = Not important
2 = Little important
3 = Moderately important
4 = Highly important
5 = Extremely important

The mean of 3,65 (range of 4 with a minimum value of 1 and a maximum value of 5) in the case of knowledge worker enterprises and 3,18 (range of 2 with a minimum value of 2 and a maximum value of 4) for manual worker enterprises indicate that the relative importance of labour-related risks for the purpose of financial investment decision-making is regarded as closer to highly important for the former than for the latter enterprises. It is important, however, to note that the larger mean in the case of knowledge worker enterprises is accompanied by a range of 4, which is greater than the range of 2 in the case of manual worker enterprises.

The sign test was applied to determine whether there are significant differences between the paired observations as far as the relative importance of labour-related risks for the purpose of financial investment decision-making are concerned. This led to the null hypothesis not being rejected, which implies that the differences of the paired observations on average are equal to zero. The conclusion can therefore be reached that the respondents regard the relative importance of labour-related risks for the purpose of financial investment decision-making as the same for both types of enterprises.

The above-mentioned findings deal with the current situation as far as the relative importance of labour-related risks for the purpose of financial investment decision-making is concerned. With this in mind, it is interesting to pay attention to the respondents' views as to whether labour-related risks had increased in importance during the past five years. Their responses to this question are summarised in Table 4/38.

TABLE 4/38: SUMMARY OF RESPONSES TO THE QUESTION WHETHER LABOUR-RELATED RISKS HAD INCREASED IN *IMPORTANCE* DURING THE *PAST* FIVE YEARS

Response to the question as to whether labour-related risks had increased in importance during the past five years	Manual workers		Knowledge workers	
	Number	% of 23 interview	Number	% of 23 interviews
Yes	8	34,8	22	95,7
No	15	65,2	1	4,3
TOTAL	23	100,0	23	100,0

Source: Question E2 of the discussion guideline.

The information presented in the above table highlights the fact that the majority of the respondents (65,2 per cent) were of the opinion that labour-related risks at manual worker enterprises had not increased in importance during the past five years. In contrast, the vast majority of the respondents (95,7%) were of the opinion that labour-related risks at knowledge worker enterprises had increased in importance during the past five years.

Given that the majority of respondents were of the opinion that labour-related risks at knowledge worker enterprises had increased in importance during the past five years (compared to a minority who were of the opinion that this was the case at manual worker enterprises), and the finding that the relative importance of labour-related risks for the purpose of financial investment decision-making at these two types of enterprises does not differ significantly at this point in time, the question arises as to what the future would bring.

With this in mind, the respondents were asked whether labour-related risks would become more important during the next five years. The responses to this question are summarised in Table 4/39.

TABLE 4/39: SUMMARY OF RESPONSES TO THE QUESTION AS TO WHETHER LABOUR-RELATED RISKS WOULD BECOME MORE *IMPORTANT* DURING THE *NEXT* FIVE YEARS

Response to the question as to whether labour-related risks would become more important during the next five years	Manual workers		Knowledge workers	
	Number	% of 23 interviews	Number	% of 23 interviews
Yes	4	17,4	23	100,0
No	19	82,6	0	0,0
TOTAL	23	100,0	23	100,0

Source: Question E3 of the discussion guideline.

As can be seen in the above table, all of the respondents were of the opinion that labour-related risks at knowledge worker enterprises would increase in importance during the next five years, while a small minority (17,4 per cent of the respondents) mentioned that this would be the case at manual worker enterprises.

With this in mind, the conclusion can be reached that the labour-related risk factors that are currently perceived by the respondents to be of significant importance for knowledge worker enterprises, may in future be of even greater importance. From a labour-related risk point of view, institutional investors should pay close attention to those labour-related aspects which are of critical importance to the degree of labour-related risks at knowledge worker enterprises, because the above-mentioned empirical results indicate that the respondents were unanimous in their view that these labour-related risks may in future be even more critical than at this point in time.

5. SUMMARY OF THE MAIN FINDINGS AND CONCLUSIONS OF THE EMPIRICAL STUDY

The findings and conclusions resulting from the empirical study can be summarised as follows:

5.1 General information

1) Long-term insurance assets represent a significant portion of institutional assets invested on the JSE Securities Exchange South Africa.

2) Institutional investors who are juridically related to long-term insurers (i.e. in the same group of companies) are able to play financially a more influential role than those who are not juridically related when financial investment decisions are taken on the JSE Securities Exchange South Africa regarding the assets of long-term insurers.

3) A significant amount of decision-making power, as far as the financial investment of long-term insurance assets is concerned, is concentrated in the hands of a small number of investment management companies.

5.2 Information about the decision-making process applicable to financial investment decision-making as far as long-term insurance assets are concerned

1) The respondents pay little or no attention to approximately 50 per cent of the companies listed on the JSE Securities Exchange South Africa, on the assumption that the respondents focus mainly on the large companies.

2) The majority of investment practitioners (including investment analysts and portfolio managers) who are responsible for the financial investment decisions of long-term insurers, should be able to assess each of the prospects included in their target groups of companies thoroughly, as they have at least a week on average to assess each prospect during a year.

3) The majority of investment practitioners either fairly often or always do independent research, and also fairly often or always make use of investment reports prepared by reputable external researchers.

4) The vast majority of investment practitioners follow the practice of specifying exposures in respect of individual companies for the purpose of portfolio management. Approximately 57 per cent of the respondents are allowed to deviate from the exposures specified in respect of individual companies. The vast majority of them are allowed a maximum deviation of 10 per cent. Conditions that must be met for deviation include that investment practitioners must adhere to the regulations or guidelines specified by the Financial Services Board, their clients and employers.

5) All respondents indicated that the same financial investment decision-making process is followed, irrespective of whether long-term insurance assets or assets managed on behalf of other clients are concerned.

6) The number of investment practitioners employed is:
   a. Positively correlated with the number of companies monitored.
   b. Negatively correlated with the number of companies monitored by each investment practitioner.
   c. Positively correlated with the practice to do independent research.

7) Both the total investments and total assets in respect of each investment practitioner are positively correlated with the practice of making use of investment reports prepared by reputable external researchers.

5.3 Information about the practice of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making of long-term insurance assets by the intuitive evaluation of certain key labour-related risks

1) The habit of institutional investors of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making, by the intuitive evaluation of certain key labour-related risk factors, can be regarded as the same for manual and knowledge worker enterprises, and is reverted to fairly frequently.

2) The respondents regard the following risk factors, that have to be considered in formulating a preliminary opinion about the *importance* of the labour-related risks for the operations of the enterprise, as equally important according to the sign test for manual and knowledge worker enterprises (with the approximate importance in brackets):
   a. Labour intensity of the operations (moderately important).
   b. The size of the labour force in comparison with the extent of the enterprise's total assets and operations (moderately important).
   c. The labour force's share of the annual value created in the enterprise in comparison with the extent of the enterprise's total assets and operations (moderately to highly important).
   d. The capital intensity of the operations (moderately to highly important).
   e. The capital structure of the enterprise (moderately important).
   f. Labour stability of the labour force (highly important).

3) The respondents are of the opinion that the following risk factors that have to be considered in formulating a preliminary opinion about the *importance* of labour-related risks for the operations of the enterprise are more important according to the sign test for manual than for knowledge worker enterprises (with the approximate importance in brackets):
   a. Unionisation of the labour force (respectively highly and not important).
   b. Strikes by the labour force (respectively highly and not important).

4) The respondents are of the opinion that the following risk factors that have to be considered in formulating a preliminary opinion about the *importance* of labour-related risks for the operations of the enterprise are more important according to the sign test for knowledge than for manual worker enterprises (with the approximate importance in brackets):
   a. The critical importance of one or more subsectors in the labour force to the operations of the enterprise (respectively highly and moderately important).
   b. The staff turnover at the enterprise (respectively highly and little important).

5) The respondents regard the following risk factors as equally important according to the sign test for manual and knowledge worker enterprises when formulating a preliminary

opinion about the *relevance* of labour-related risks for the purpose of financial investment decision-making:

a. The anticipated payback period (about moderately important).
b. The marketability of the investment (almost highly important).
c. The incremental effect on labour-related risks inherent in the existing investment portfolio (moderately important).

6) Significant *correlation* regarding manual worker enterprises between the aspects relating to the formulation of a preliminary opinion on labour-related risks with the general information obtained and with the aspects relating to the decision-making process, is summarised in what follows:

a. The importance of unionisation as a labour-related risk factor is positively correlated with:
   i. The size of the assets of long-term insurers in respect of which financial investment decisions are taken.
   ii. The total assets per investment practitioner employed.
   iii. The use by respondents of investment reports prepared by external researchers.
   iv. The number of companies monitored by each investment practitioner.
b. The years of experience that the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the significance of one or more subsectors in the labour force that are of critical importance to the operations of the enterprise.
c. The size of the assets of long-term insurers in respect of which financial investment decisions are taken is positively correlated with the importance of strikes as a labour-related risk factor.
d. The practice of doing independent research is negatively correlated with the importance of the size of the labour force in comparison to the extent of the enterprise's total assets and operations as a labour-related risk factor.

7) Significant *correlation* regarding manual worker enterprises amongst the aspects relating to the formulation of a preliminary opinion in respect of labour-related risks for the purpose of financial investment decision-making, is summarised below:
   a. The habit of formulating a preliminary opinion on labour-related risks by the intuitive evaluation of key labour-related risk factors is positively correlated with the importance of the following labour-related risk factors:
      i. Labour intensity of the operations of the enterprise.
      ii. Labour stability of the labour force.
   b. The importance of labour intensity as a labour-related risk factor is positively correlated with the importance of the following labour-related risk factors:
      i. The size of the labour force in comparison with the extent of the enterprise's total assets and operations.
      ii. Unionisation of the labour force.
      iii. Capital intensity of the operations.
   c. The importance of labour stability is positively correlated with the importance of strikes.
   d. The importance of the marketability of the investment is positively correlated with the importance of the incremental effect of the investment on labour-related risks inherent in the existing investment portfolio.

8) Comparison of the aspects relating to the formulation of a preliminary opinion on labour-related risks with the general information obtained, as well as with the aspects relating to the decision-making process as far as knowledge workers are concerned, yielded only one significant *correlation*. This refers to the negative correlation between the practice of making use of investment reports prepared by external researchers and the importance of the marketability of the investment when formulating a preliminary opinion about the relevance of labour-related risks for the purpose of financial investment decision-making.

9) Significant *correlation* regarding knowledge worker enterprises amongst the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial investment decision-making, is summarised below:
   a. The habit of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of key labour-

related risk factors is positively correlated with the importance of the following labour-related risk factors:

i. Labour intensity of the operations of the enterprise.
ii. Incremental effect on labour-related risks inherent in the existing investment portfolio.

b. The importance of labour intensity as a labour-related risk factor is positively correlated with the importance of the following labour-related risk factors:

i. The size of the labour force in comparison with the extent of the enterprise's total assets and operations.
ii. The labour force's share of the annual value created in the enterprise in comparison with the extent of the enterprise's total assets and operations.
iii. One or more subsectors in the labour force that are of critical importance to the operations of the enterprise.
iv. Capital intensity of the enterprise.
v. Capital structure of the enterprise.

c. The importance of labour stability is positively correlated with the importance of staff turnover.

5.4 Information relating to aspects that are considered when a detailed study is undertaken of labour-related risks for the purpose of financial investment decision-making on long term insurance assets

A detailed study of labour-related risks for the purpose of financial investment decision-making includes an investigation of the external environment as it affects labour relations at the enterprise and an analysis of company-specific labour-related risk factors. The findings and conclusions of the empirical study regarding these two aspects are summarised below.

5.4.1 The external environment

1) Generally, external environmental labour-related risk factors are regarded as of significantly more importance for manual than for knowledge worker enterprises (respectively highly and moderately important).

2) The global business environment, being a component of the economic environment, is the only external environmental labour-related risk factor that is regarded as of equal importance according to the sign test for manual and knowledge worker enterprises (both are moderately important).

3) The respondents are of the opinion that some external environmental labour-related risk factors are of more importance according to the sign test for manual than for knowledge worker enterprises. These risk factors (with the approximate importance in brackets) are summarised below:
   a. The political environment (respectively highly and moderately important), and the following components thereof:
      i. Political stability (respectively highly and moderately important).
      ii. The distribution of political power (respectively moderately and little important).
      iii. Labour market policies (respectively highly and little important).
   b. The economic environment (respectively highly and moderately important), and the following of its components:
      i. The business cycle (respectively highly and moderately important).
      ii. The level and trend in unemployment (respectively highly and little important).
      iii. Inflation (respectively moderately and little important).
   c. The social environment (respectively moderately and little important), and two of its components, namely:
      i. Different cultural values (respectively moderately and little important).
      ii. Demographic characteristics and trends (respectively moderately and little important).
   d. The technological environment (respectively highly and moderately important), and its components, namely:
      i. The impact of technological change on employment, production processes and the obsolescence of skills (respectively highly and moderately important).
      ii. The extent and manner of co-operation between management and the labour force when they deal with technological change (respectively more than and less than moderately important).

4) The skills and education of the population, a component of the social environment, is the only external environmental labour-related risk factor regarded as of more importance according to the sign test for knowledge than for manual worker enterprises (respectively highly and moderately important).

5) None of the external environmental labour-related risk factors *correlate* significantly with the general information obtained or with the aspects relating to the financial investment decision-making process as far as manual worker enterprises are concerned.

6) *Correlation* amongst the external environmental labour-related risk factors in respect of manual worker enterprises, is summarised hereunder:
   a. A positive correlation exists between the importance of the political environment as a labour-related risk factor and the importance of political stability, being a component thereof.
   b. The importance of the economic environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. The business cycle.
      ii. The level and trend in unemployment.
      iii. The global business environment.
   c. The importance of the social environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. Different cultural values.
      ii. Demographic characteristics and trends.
      iii. The skills and education of the population.
   d. The importance of the technological environment as a labour-related risk factor is positively correlated with the importance of both of its components, namely:
      i. The impact of technological change on employment, production processes and the obsolescence of skills.
      ii. Extent and manner of co-operation between management and the labour force when they deal with technological change.

7) The *correlation* of the external environmental labour-related risk factors with the general information obtained, as well as with the aspects relating to the financial investment

decision-making process as far as knowledge worker enterprises are concerned, is outlined in what follows:

a. The years of experience which the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the importance of the following labour-related risk factors:
   i. Political stability.
   ii. The distribution of political power.
b. The total assets per investment practitioner employed is positively correlated with the importance of the technological environment as a labour-related risk factor.
c. The use by the respondents of investment reports prepared by external researchers is negatively correlated with the importance of inflation as a labour-related risk factor.

8) A summary of the *correlation* amongst the external environmental labour-related risk factors as far as knowledge workers are concerned, is provided below:
   a. The importance attached to external environmental labour-related risk factors in general is positively correlated with the importance of the economic environment as a labour-related risk factor.
   b. The importance of the political environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. Political stability.
      ii. The distribution of political power.
   c. The importance of the economic environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. The business cycle.
      ii. The level and trend in unemployment.
      iii. The global business environment.
   d. The importance of the social environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. Different cultural values.
      ii. Demographic characteristics and trends.
      iii. The skills and education of the population.

e. The importance attached to the technological environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. Impact of technological change on employment, production processes and the obsolescence of skills.
   ii. Extent and manner of co-operation between management and the labour force when they deal with technological change.

5.4.2 The company-specific factors relevant to labour-related risks

1) In general, company-specific labour-related risk factors are regarded as equally important according to the sign test for manual and knowledge worker enterprises (highly important in both cases).

2) The respondents are of the opinion that the following company-specific labour-related risk factors are equally important according to the sign test for manual and knowledge worker enterprises (with the approximate importance in brackets):
   a. The track record of labour relations (moderately to highly important) and the following of its components:
      i. The causes, extent and nature of employee turnover and absenteeism (moderately important).
      ii. The historic trend of value that has been created, as well as the distribution thereof (moderately important).
   b. The existence of behavioural agreements (moderately important).
   c. The existence of sound labour relations practices (highly important) and the following of its components:
      i. The development of human resources (highly important).
      ii. Reasonable working conditions (moderately important).
   d. The enterprise's view of the labour force (highly important) and all its components, namely:
      i. The mission and strategy of the enterprise (moderately important).
      ii. The organisational culture (moderately to highly important).
      iii. The leadership's approach to the labour force (highly important).
      iv. Management practices (highly important).
      v. The organisational structure (moderately important).

vi. Systems, that is, policies and procedures (moderately important).

e. The labour force's view of the enterprise (highly important) and all its components, namely:

i. The morale of the labour force (highly important).

ii. The attitude of the labour force (highly important).

iii. The labour climate within the enterprise (highly important).

iv. The culture of the labour force (moderately important).

3) The respondents are of the opinion that the following company-specific labour-related risk factors are more important according to the sign test for manual than for knowledge worker enterprises (with the approximate importance in brackets):

a. Two components of the track record of labour relations, namely:

i. The causes of labour disputes, typical conflict-handling behaviour of management and the labour force, as well as the appropriateness of such behaviour (respectively highly and little important).

ii. The timing of labour unrest (respectively moderately and little important).

b. The legal framework in which labour relations are practised (respectively highly and little important) as well as its components, namely:

i. The right of employees to strike (respectively moderately and not important at all).

ii. The flexibility of labour to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment (respectively highly and little important).

iii. The creation of workplace forums in addition to the traditional collective bargaining structure (respectively moderately and little important).

c. Contingent liabilities for the enterprise in respect of the labour force (respectively moderately and little important).

4) The respondents are of the opinion that the following labour-related risk factors are more important according to the sign test for knowledge than for manual worker enterprises (with the approximate importance in brackets):
   a. A number of labour-related risk factors that are components of the existence of sound labour relations practices, namely:
      i. Recruitment and interviewing practices (respectively highly and little important).
      ii. The participation of the employees in decision-making (respectively highly and moderately important).
      iii. The sharing of information between the employer and the employees (respectively highly and moderately important).
      iv. The financial empowerment of the employees (respectively highly and moderately important).
      v. Employment equity (respectively highly and little important).
   b. The availability of labour (respectively highly and moderately important) as well as its components, namely:
      i. The adequacy of the existing labour force in both quantitative and qualitative terms (respectively highly and moderately important).
      ii. The likelihood of future labour shortages at the enterprise (respectively highly and little important).
      iii. Enterprise interventions to reduce the risk of an insufficient external labour supply (respectively highly and moderately important).

5) *Correlation*, as far as manual workers are concerned, between the importance of the company-specific labour-related risk factors and the general information obtained, as well as with the aspects relating to the financial investment decision-making process, is summarised in what follows:
   a. The size of the assets of long-term insurers in respect of which financial investment decisions are taken is positively correlated with the importance of the following labour-related risk factors:
      i. The track record of labour relations.
      ii. The timing of labour unrest.

b. Significant correlation exists between the total assets per investment practitioner employed and the importance of the following labour-related risk factors:
   i. The track record of labour relations (positive correlation).
   ii. Recruitment and interviewing practices (negative correlation).
   iii. The adequacy of the existing labour force (negative correlation).
c. The years of experience which the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the importance of the next two labour-related risk factors:
   i. The adequacy of the existing labour force.
   ii. The labour climate within the enterprise.
d. Significant correlation exists between the number of investment practitioners employed and the importance of the labour-related risk factors mentioned below:
   i. The timing of labour unrest (positive correlation).
   ii. Contingent liabilities in respect of the labour force (negative correlation).
e. The number of companies monitored for the purpose of financial investment decision-making is positively correlated with the importance of employment equity as a labour-related risk factor.
f. The number of companies monitored per investment practitioner employed is negatively correlated with the importance of the following labour-related risk factors:
   i. The historic trend of value that has been created, as well as the distribution thereof.
   ii. The adequacy of the existing labour force.
g. The practice of doing independent research is positively correlated with the importance of the timing of labour unrest as a labour-related risk factor.
h. The use of investment reports prepared by external researchers is negatively correlated with the importance of the adequacy of the existing labour force as a labour-related risk factor.

6) Significant *correlation* amongst the company-specific labour-related risk factors as far as manual workers are concerned, is briefly outlined hereunder:
   a. The importance of the track record of labour relations as a labour-related risk factor is positively correlated with the importance attached to the following of its components:
      i. The causes of labour disputes and the handling thereof.
      ii. The causes, extent and nature of employee turnover and absenteeism.

iii. The timing of labour unrest.

iv. The historic trend of value that has been created, as well as the distribution thereof.

b. The importance of the legal framework in which labour relations are practiced as a labour-related risk factor is positively correlated with the importance of the following of its components:

i. The right of employees to strike.

ii. The flexibility of labour to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment.

iii. The creation of workplace forums in addition to the traditional collective bargaining structure.

c. The importance of the existence of sound labour relations practices as a labour-related risk factor is positively correlated with the importance of the following of its components:

i. The sharing of information between the employer and the employees.

ii. The financial empowerment of the employees.

iii. Reasonable working conditions.

d. The importance of the availability of labour as a labour-related risk factor is positively correlated with the importance of the following of its components:

i. The adequacy of the existing labour force.

ii. The likelihood of future labour shortages at the enterprise.

e. The importance of the enterprise's view of the labour force as a labour-related risk factor is positively correlated with the importance of the following of its components:

i. The mission and strategy of the enterprise.

ii. The organisational culture.

iii. The organisational structure.

iv. Systems (policies and procedures).

f. The importance of the labour force's view of the enterprise as a labour-related risk factor is positively correlated with the importance of the following of its components:

i. The morale of the labour force.

ii. The attitude of the labour force.

iii. The labour climate within the enterprise.

iv. The culture of the labour force.

7) Significant *correlation*, as far as knowledge workers are concerned, between the importance of the company-specific labour-related risk factors and the general information obtained, as well as with the aspects relating to the financial investment decision-making process, is summarised in what follows:
   a. The years of experience that the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the importance of the next two labour-related risk factors:
      i. The sharing of information between the employer and the employees.
      ii. The contingent liabilities for the enterprise in respect of the labour force.
   b. The number of companies monitored for the purpose of financial investment decision-making is correlated as follows with the importance of the labour-related risk factors stated hereunder:
      i. The timing of labour unrest (positive correlation).
      ii. The adequacy of the existing labour force in both quantitative and qualitative terms (negative correlation).
   c. The number of companies monitored per investment practitioner employed is negatively correlated with the importance of the following labour-related risk factors:
      i. The existence of sound labour relations practices.
      ii. The participation of the employees in decision-making.
      iii. The sharing of information between the employer and the employees.
      iv. The financial empowerment of the employees.
      v. Reasonable working conditions.
      vi. The attitude of the labour force towards the enterprise.
   d. The practice of doing independent research is positively correlated with the importance of the organisational structure as a labour-related risk factor.
   e. The use of investment reports prepared by external researchers is negatively correlated with the importance of the development of human resources as a labour-related risk factor.

8) Significant *correlation* amongst the company-specific labour-related risk factors, as far as knowledge workers are concerned, is briefly outlined hereunder:
   a. The importance of company-specific labour-related risk factors in general is positively correlated with the importance of the following of its components:
      i. The track record of labour relations.

ii. The existence of behavioural agreements.
iii. The availability of labour.
iv. The labour force's view of the enterprise.

b. The importance of the track record of labour relations as a labour-related risk factor is positively correlated with the importance attached to the following of its components:
   i. The causes of labour disputes and the handling thereof.
   ii. The historic trend of value that has been created, as well as the distribution thereof.
   iii. The causes, extent and nature of employee turnover and absenteeism.

c. The importance of the legal framework in which labour relations are practised as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The flexibility of labour to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment.
   ii. The creation of workplace forums in addition to the traditional collective bargaining structure.

d. The importance of the existence of sound labour relations practices as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The participation of the employees in decision-making.
   ii. The sharing of information between the employer and the employees.

e. The importance of the availability of labour as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The adequacy of the existing labour force.
   ii. The likelihood of future labour shortages at the enterprise.
   iii. Enterprise interventions to reduce the risk of an insufficient external labour supply.

f. The importance of the enterprise's view of the labour force as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The mission and strategy of the enterprise.
   ii. The organisational culture.
   iii. The leadership's approach to the labour force.

g. The importance of the labour force's view of the enterprise as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The morale of the labour force.
   ii. The attitude of the labour force.
   iii. The labour climate within the enterprise.
   iv. The culture of the labour force.

5.5 Ranking of labour-related aspects by the respondents in order of their significance when they determine the degree of labour-related risk at enterprises

1) The ranking of labour-related aspects by the respondents in order of their significance when they determine the degree of labour-related risk at manual and knowledge worker enterprises is summarised below (please note that "one" is used to indicate the most critical aspect, followed by "two" for the second most critical aspect, after which the process is continued until "seven", which indicates the least critical aspect, is reached).

Labour-related aspects which are of significance when the degree of labour-related risk at enterprises is determined	Manual workers	Knowledge workers
Labour force is of importance for the operations of the enterprise	1	1
Values and goals of leadership or management differ from those of the rest of the labour force	3	2
Enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	2	4
Structure and systems of the enterprise create and sustain an unfavourable work environment	5	5
Legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	4	7
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	7	3
Enterprise is characterised by an unfavourable external environment with adverse labour relations implications	6	6

2) Application of the sign test indicated that the following significant differences of opinion regarding the ranking of the labour-related aspects in respect of manual and knowledge worker enterprises exist:
   a. Two labour-related aspects are regarded as of significantly more importance for manual than for knowledge worker enterprises, namely:
      i. The enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices.

ii. The legal framework creates a power imbalance in favour of the labour force and further results in contingent liabilities for the enterprise.

b. The only labour-related aspect that is regarded as of significantly more importance for knowledge than for manual worker enterprises refers to labour shortages in quantitative and/or qualitative terms which are likely to occur due to an insufficient internal or external supply of labour.

5.6 Information relating to the relative importance of labour-related risks for the purpose of financial investment decision-making

1) The respondents regard the relative importance of labour-related risks for the purpose of financial investment decision-making as the same for both manual and knowledge worker enterprises (moderately to highly important).

2) The majority of the respondents (65,2 per cent) are of the opinion that labour-related risks at manual worker enterprises have not increased in importance during the past five years. In contrast, the vast majority of the respondents (95,7 per cent) are of the opinion that labour-related risks at knowledge worker enterprises have increased in importance during the past five years.

3) All of the respondents are of the opinion that labour-related risks at knowledge worker enterprises will increase in importance during the next five years, while a small minority (17,4 per cent of the respondents) mentioned that this will be the case at manual worker enterprises.

CHAPTER 5

MEASURING LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

1. INTRODUCTION

One of the aims of this study is to provide institutional investors with a tool to measure the degree of labour-related risk at enterprises for the purpose of financial investment decision-making. The development of such a tool is the main focus of this chapter. The tool which is proposed is a natural extension of the work done thus far and relies to a large extent on the findings and conclusions highlighted in the preceding chapters.

In the initial section of this chapter, classification trees are introduced as the preferred method of measuring labour-related risks at enterprises for the purpose of financial investment decision-making. Thereafter, separate classification trees are constructed, based on the results of the empirical study, to measure labour-related risks in manual and knowledge worker enterprises. The chapter concludes with a theoretical assessment of the empirically based classification trees.

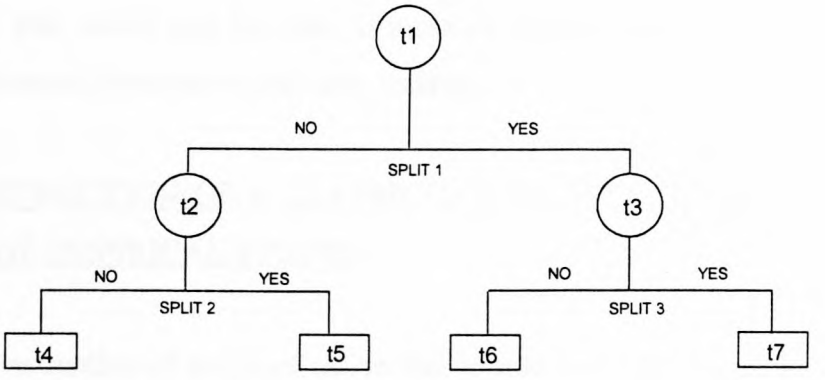
2. CLASSIFICATION TREES AS THE PREFERRED METHOD FOR MEASURING LABOUR-RELATED RISKS AT ENTERPRISES FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING

Labour-related risks are complex in nature and difficult to interpret. This became apparent in the previous chapters when a large number of labour-related risk factors which exist in varying relationships to each other were identified. Given the complexities involved, a method is required which focuses on the salient features of the data and feeds back understandable summaries of the information to institutional investors. Classification trees are able to deal with these complexities, and their output satisfies the need amongst institutional investors for simplicity, given the time constraints with which they are faced.

Classification trees are constructed from experience. So-called training or learning data are used for this purpose. The training data consist of measurements on each of N sample units

of the variables to be used for classification, together with the group membership of each of these units. Using these data, a classification tree is constructed which can be used to classify a new case into one of the available groups by using the measurements which were made on this case. An example of a classification tree is shown in Figure 5/1.

FIGURE 5/1: HYPOTHETICAL CLASSIFICATION TREE



In tree theory the circles and rectangular boxes pictured above are referred to as nodes. The root node is denoted by t_1. The subsets of the root node consist of non-terminal nodes (depicted by the circles t_2 and t_3) and terminal nodes (depicted by the rectangular boxes t_4, t_5, t_6 and t_7). Non-terminal nodes are those subsets which can still be split, while terminal nodes are not split. Consider a new unit on which the relevant variables have been measured. Let these measurements be the components of a vector x. The hypothetical tree classifier represented in Figure 5/1 predicts a class for this unit as follows: Consider the variable on which split 1 is made. The value of this variable for the new unit is used to decide whether the unit should go into non-terminal node t_2 or non-terminal node t_3. If x goes into t_3, the variable used in the definition of split 3 is used to determine whether x should go into terminal node t_6 or terminal node t_7. When x finally moves into a terminal node, its predicted class is given by the class label attached to that terminal node.

The construction of a classification tree revolves around four issues. Firstly, it is necessary to formulate a set of binary questions regarding the variables which can potentially be used for classification. Secondly, a so-called goodness-of-split criterion has to be specified. This criterion is used at each stage of the tree construction to determine the variable on which to split. Thirdly, one has to decide when to stop splitting. Typically, a large tree is constructed, and then this tree is pruned back to an acceptable size. The point where pruning stops can be

determined by using a technique such as crossvalidation. Finally, a rule for assigning every terminal node to a class has to be determined. This is typically done by assigning to a terminal node the class to which the majority of the training data cases ending up in the node belong. Each of these issues involves a considerable amount of statistical input. The interested reader is referred to the standard textbook by Breiman et al. (1993).

The procedure highlighted in the preceding paragraphs can be used to construct a classification tree which can be used to measure labour-related risks at enterprises for the purpose of financial investment decision-making.

3. CONSTRUCTION OF A CLASSIFICATION TREE (BASED ON THE RESULTS OF THE EMPIRICAL STUDY)

The actual construction of a classification tree to measure labour-related risks at enterprises for the purpose of financial decision-making is preceded by a discussion of the approach followed in this regard, as well as the construction of a generic seven-question classification tree. The generic seven-question classification tree is thereafter expanded to measure labour-related risks in manual and knowledge worker enterprises.

3.1 Approach followed to construct a classification tree to measure labour-related risks

In the previous section, it was emphasised that classification trees are based on past experience, and that past experience is summarised in terms of a learning sample. In theory, the construction of a classification tree to measure labour-related risks at enterprises for the purpose of financial investment decision-making therefore requires that labour-related risks at a number of enterprises be observed together with their actual classifications. The classifications based on past experience are then used to predict the class of a new enterprise.

Measuring actual labour-related risks at a number of enterprises and the actual classification thereof fall beyond the scope of this study, because the primary focus of this study is the impact of labour-related risks on financial investment decision-making regarding long-term insurance assets. The prime emphasis is therefore on financial investment decision-making regarding long-term insurance assets and not on measuring labour-related risks at enterprises. With this in mind, it was decided to construct classification trees by making use of the

information obtained during the empirical study. The classification trees are therefore not constructed from actual cases where the variables could be measured and the eventual outcomes were known at enterprises, but rather from the perceptions of the respondents regarding the impact of labour-related risks on financial investment decision-making. Given the distinction that can be made between manual and knowledge worker enterprises and the views of the respondents in this regard, separate classification trees are constructed for these two types of enterprises.

The responses obtained when the respondents were asked to rank the labour-related aspects in order of their significance for labour-related risks at enterprises (refer to section D of the discussion guideline, as well as to the reporting and interpretation of these empirical results in the previous chapter) are used as elements for the tree-growing procedure. This entails converting the seven labour-related aspects (which are of significance when the degree of labour-related risk at enterprises is determined) into binary questions. The most critical labour-related aspect, as indicated by the respondents, is used at the first split. Thereafter the splits correspond to the ranking of the remaining labour-related aspects in order of their significance for the degree of labour-related risk at manual and knowledge worker enterprises. In other words, the second split is based on the second most critical labour-related aspect, and the process is continued until the least significant labour-related aspect is reached. The terminal nodes are assigned to classes which indicate the degree of labour-related risk present at the enterprise. The assignment of risk classes to the terminal nodes is based on the assumption that the incremental difference in risk between all adjacent terminal nodes is the same. Although the seven binary questions result in 128 terminal nodes, the risk scale is calibrated to indicate only 16 risk classes, since further refinement would not be meaningful. The risk scale therefore starts at zero, which resembles an extremely low degree of labour-related risk, and ends at 16, which indicates an extremely high degree of labour-related risk.

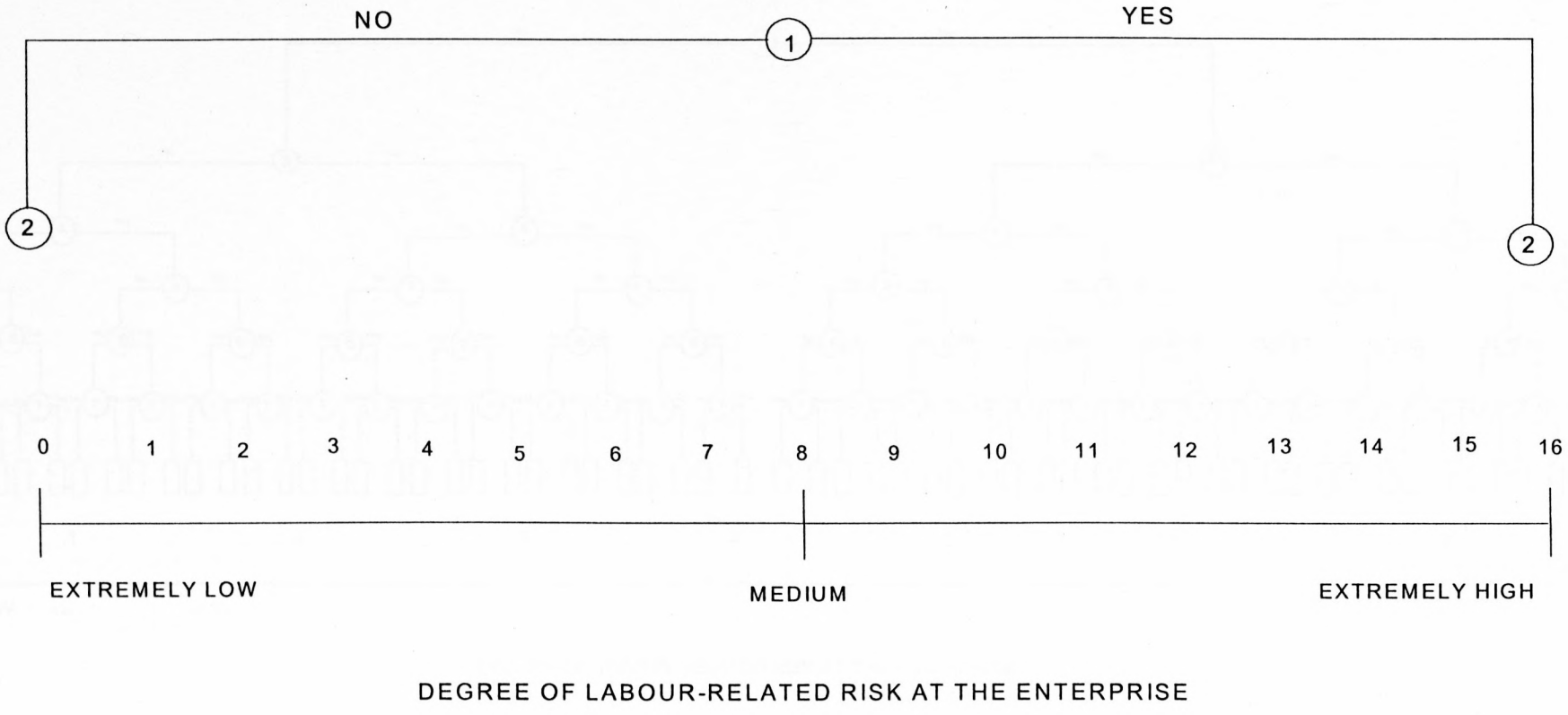
When answering the binary questions in a classification tree, institutional investors should consider the labour-related risk factors summarised at the end of Chapter 3. The responses regarding the importance of these labour-related risk factors for the purpose of financial investment decision-making are summarised in the preceding chapter (refer to Tables 4/19, 4/20, 4/25 and 4/29). This approach should not be seen as a reflection of significant

correlation amongst the various labour-related aspects and factors, but merely has as a goal to provide institutional investors with a guideline when answering the binary questions.

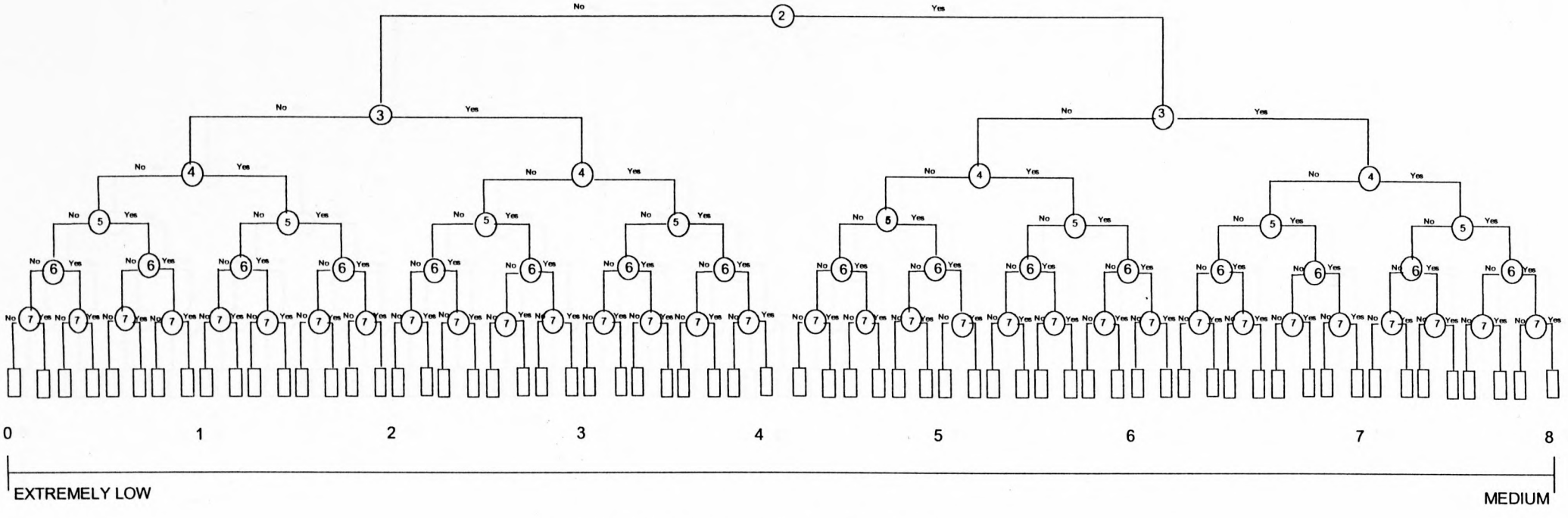
3.2 Construction of a generic seven-question classification tree

The classification trees to determine the degree of labour-related risk in manual and knowledge worker enterprises both involve seven questions. Application of the tree-growing procedure to a seven-question problem results in a classification tree which can be pictured as follows:

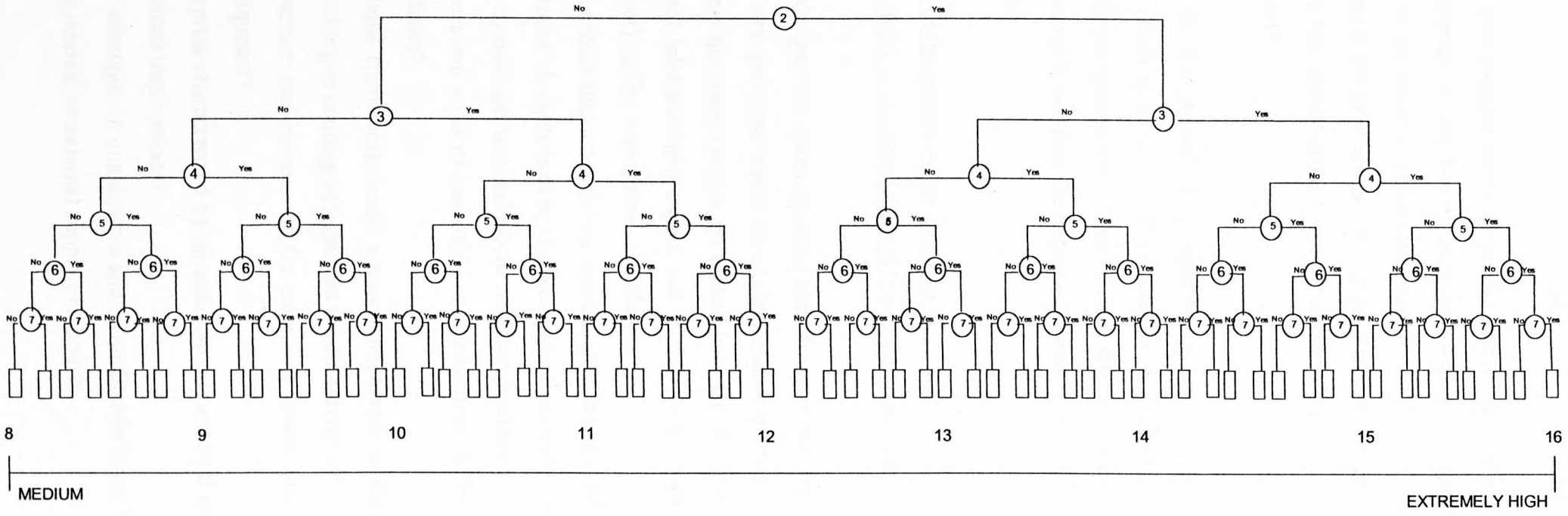
FIGURE 5/2: GENERIC SEVEN-QUESTION CLASSIFICATION TREE



CONTINUATION OF THE GENERIC SEVEN-QUESTION CLASSIFICATION TREE (FIGURE 5/2) SHOULD THE INSTITUTIONAL INVESTOR ANSWERS "NO" TO THE FIRST STATEMENT



CONTINUATION OF THE GENERIC SEVEN-QUESTION CLASSIFICATION TREE (FIGURE 5/2) SHOULD THE INSTITUTIONAL INVESTOR ANSWERS "YES" TO THE FIRST STATEMENT



The classification tree pictured above illustrates that the degree of labour-related risk at any one enterprise depends on the binary questions which are asked, the answers to these questions, as well as the order in which these questions are asked. It is important to note that the impact which each question has on the degree of labour-related risk at enterprises declines as one moves from the highest-ranked labour-related risk aspect (in terms of significance) to the lowest-ranked one.

The information in the preceding paragraph implies that the generic seven-question classification tree needs to be enhanced in order to measure labour-related risks in manual and knowledge worker enterprises. This is done by incorporating the specific questions which need to be asked to measure the degree of labour-related risk at manual and knowledge worker enterprises.

3.3 Expansion of the generic seven-question classification tree (based on the results of the empirical study) to measure labour-related risks in *manual* worker enterprises

In order to make the generic seven-question classification tree applicable to manual worker enterprises, the binary questions which are of significant importance in this regard, need to be incorporated. These questions (which are ranked in order of significance, starting at one as the most significant labour-related aspect and ending with seven as the least significant labour-related aspect) can be summarised as follows:

1) Is the labour force important for the operations of the enterprise?
2) Is the enterprise characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices?
3) Do the values and goals of leadership or management differ from those of the rest of the labour force?
4) Does the legal framework create a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise?
5) Do the structure and systems of the enterprise create and sustain an unfavourable work environment?
6) Is the enterprise characterised by an unfavourable external environment with adverse labour relations implications?
7) Are labour shortages in quantitative and/or qualitative terms likely to occur due to an insufficient internal or external supply of labour?

3.4 Expansion of the generic seven-question classification tree (based on the results of the empirical study) to measure labour-related risks in *knowledge* worker enterprises

A similar approach to that presented in the preceding section (where the generic classification tree was made applicable to manual worker enterprises) is followed to extend the generic seven-question classification tree to a tool which is suitable for determining labour-related risks in knowledge worker enterprises. In order to achieve this objective, the binary questions which are of significant importance in this regard are incorporated in the generic classification tree. These questions (which are ranked in order of significance, starting at one as the most significant labour-related aspect and ending with seven as the least significant labour-related aspect) can be summarised as follows:

1) Is the labour force important for the operations of the enterprise?
2) Do the values and goals of leadership or management differ from those of the rest of the labour force?
3) Are labour shortages in quantitative and/or qualitative terms likely to occur due to an insufficient internal or external supply of labour?
4) Is the enterprise characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices?
5) Do the structure and systems of the enterprise create and sustain an unfavourable work environment?
6) Is the enterprise characterised by an unfavourable external environment with adverse labour relations implications?
7) Does the legal framework create a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise?

4. THEORETICAL ASSESSMENT OF THE EMPIRICALLY-BASED CLASSIFICATION TREES TO MEASURE LABOUR-RELATED RISKS IN MANUAL AND KNOWLEDGE WORKER ENTERPRISES

Assessment of the empirically-based classification trees is made by referring to the theoretical ranking of the labour-related aspects, after which differences between the theoretical ranking and the empirical ranking in respect of manual and knowledge worker enterprises are discussed.

4.1 Theoretical ranking of the labour-related aspects

The empirically-based classification trees, as depicted in the preceding sections, were constructed with reference to the theory underlying classification trees and by utilising the results of the empirical study.

The labour-related aspects which were used during the empirical study comprise a summary of a large number of labour-related risk factors which were identified and discussed as part of the literature study (refer to the summary at the end of Chapter 3). These labour-related aspects might, however, be criticised as an oversimplification of the actual labour-related risks which institutional investors have to assess in practice for the purpose of financial investment decision-making. This argument can be countered by the fact that one of the aims of this study is to develop a user-friendly tool to measure the degree of labour-related risk at enterprises for the purpose of financial investment decision-making. In addition, respondents were given an opportunity to identify and include additional labour-related risk factors which, in their opinion, also had to be considered when determining the degree of labour-related risk at enterprises. None of the respondents regarded it necessary to introduce additional labour-related risk factors to those already included in the discussion guideline. The labour-related aspects (as mentioned in the discussion guideline) which should be considered to determine the degree of labour-related risk at enterprises can therefore be substantiated from both a theoretical and a practical point of view. The following question now arises: to what extent can the ranking of the labour-related aspects, which resulted from the empirical study, be justified from a theoretical point of view? What follows is a response to this question.

No reference to the ranking of labour-related aspects in order of significance when the degree of labour-related risk at enterprises is determined for the purpose of financial investment decision-making was found in the literature. The ranking of labour-related risks from a theoretical point of view can therefore only be done once certain assumptions have been made. The reliability of the ranking arrived at in this way therefore depends on the quality of the assumptions that are made.

The first assumption is that the labour-related aspect of "importance of the labour force for the operations of the enterprise" should be regarded as the most significant labour-related aspect when the degree of labour-related risk at enterprises is determined. This assumption is

based on common sense which indicates that the significance of the remaining labour-related aspects can only be determined once it is known whether the labour force is of importance for the operations of the enterprise. An enterprise with a labour force that is of importance for its operations is more exposed to labour-related risks than one in which the labour force is of no importance for its operations. Consequently, the importance of the labour force for the operations of an enterprise has a stronger influence on the significance of the other labour-related aspects when the degree of labour-related risk is determined, than the other way round.

The second assumption maintains that labour-related aspects that are internal to the enterprise are generally of more significance than external environmental labour-related aspects when the degree of labour-related risk at enterprises is determined. Support for this assumption is found in conflict models which cite internal labour-related aspects as the primary sources of conflict (Van Uytrecht, 1995:30-35). As internal labour-related aspects can be managed and controlled by an enterprise, they are regarded as of more significance to enterprises than external labour-related aspects that should merely be accepted by enterprises as uncontrollable influences.

The third assumption refers to the ranking of the labour-related aspects that are internal to the enterprise. In this regard, the assumption is made that, in general, labour-related aspects which are deep-seated in the enterprise and therefore difficult to influence, should carry more "weight" than labour-related aspects which are easier to influence. The literature clearly indicates that organisational culture (which is defined by beliefs and values) is more deep-seated and difficult to change than organisational climate (defined in terms of perceptions that individuals have of how their local work unit is managed and how effectively they and their day-to-day colleagues work together on the job) (Burke & Litwin, 1992:529, as well as Wilkerson & Kellogg, 1992/93:415). The structure and systems of the enterprise are the easiest of the three labour-related aspects to change and therefore carry the least weight. The literature also suggests that a change in the most significant of these labour-related aspects (organisational culture) will affect the climate in the enterprise as well as the structure and systems, while a change in the lower ranked labour-related aspects will not necessarily affect the higher ranked labour-related aspects (Burke & Litwin, 1992:529). Based on this, values and goals of leadership or management that differ from those of the rest of the labour force should be regarded as the most significant labour-related aspect in this regard, followed by

dislikes, prejudices and perceived inequalities and, lastly the structure and systems of the enterprise.

Finally, it is assumed that the ranking of the external environmental labour-related aspects is not fixed, but may vary depending on the interaction between the enterprise and the environment in which it exists.

Based on the above assumptions, the labour-related aspects can be ranked as follows from a theoretical point of view:

1) The labour force is of importance for the operations of the enterprise.
2) The values and goals of leadership or management differ from those of the rest of the labour force.
3) The enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices.
4) The structure and systems (policies and procedures) of the enterprise create and sustain an unfavourable work environment.

5, **6** or **7**, in any order:

5) The legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise.
6) Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour.
7) The enterprise is characterised by an unfavourable external environment with adverse labour relations implications.

4.2 Differences between the theoretical and the empirically-based ranking of labour-related aspects in respect of *manual* worker enterprises

The differences between the theoretical ranking of the labour-related aspects and the ranking which resulted from the empirical study are summarised in Table 5/1.

TABLE 5/1: DIFFERENCES BETWEEN THE THEORETICAL RANKING OF THE LABOUR-RELATED ASPECTS AND THE RANKING WHICH RESULTED FROM THE EMPIRICAL STUDY AS FAR AS *MANUAL* WORKERS ARE CONCERNED

Labour-related aspects which are of significance when the degree of labour-related risk at enterprises is determined	Theoretical ranking	Empirical ranking	Difference between rankings (Yes/No)
The labour force is of importance for the operations of the enterprise	1	1	No
The values and goals of leadership or management differ from those of the rest of the labour force	2	3	Yes
The enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	3	2	Yes
The structure and systems (policies and procedures) of the enterprise create and sustain an unfavourable work environment	4	5	Yes
The legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	5,6 or 7	4	Yes
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	5,6 or 7	7	No
The enterprise is characterised by an unfavourable external environment with adverse labour relations implications	5,6 or 7	6	No

Source: Table 4/34 in Chapter 4 and paragraph 4.1 of Chapter 5.

The differences highlighted in the above table are the result of two basic differences between the theoretical ranking of the labour-related aspects and the ranking which resulted from the empirical study. The first basic difference refers to the ranking of values and goals in the enterprise, on the one hand, and dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices, on the other hand. In theory, cultural differences in the enterprise (values and goals of leadership or management that differ from those of the rest of the labour force) are regarded as a more significant labour-related aspect than perceptions of employees of how their local work unit is managed and how effectively they and their day-to-day colleagues work together on the job. The respondents were of the opinion that the opposite was true for South African manual worker enterprises.

The difference between the theoretical and empirical ranking of these two labour-related aspects reflects a view among the respondents that manual workers were more concerned about labour-related aspects that have an impact on their immediate work environment than about conflicting values and goals in the enterprise. In other words, the respondents based their ranking on the belief that manual workers were more interested in operational issues

rather than in strategic issues. The respondents' ranking of these two labour-related aspects can be criticised as an underestimation of the conflict potential resulting from differing values and goals in the enterprise. The work unit will remain inherently unstable if the values and goals of leadership or management differ from those of the rest of the labour force. In addition, an underestimation of the importance of strategic issues such as values and goals might result in a focus on labour-related risk symptoms, rather than the causes thereof.

The second basic difference refers to the ranking of the legal framework which creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise, and the structure and systems of the enterprise which create and sustain an unfavourable work environment. From a theoretical point of view, the latter is regarded as a more significant labour-related aspect than the former. The respondents did not agree with this view and mentioned that they were of the opinion that the legal framework which creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise, was a more significant labour-related aspect than the structure and systems of the enterprise which create and sustain an unfavourable work environment.

The rankings highlighted in the preceding paragraph indicate that the respondents were of the opinion that, in contrast to theory, manual worker enterprises in South Africa were faced with one external labour-related aspect (the legal environment) which was of greater significance than a labour-related aspect which was internal to enterprises (structure and systems). The fact that the legal framework was the only external labour-related aspect ranked higher than labour-related aspects which were internal to enterprises, indicates that the respondents generally agreed that labour-related aspects which were internal to enterprises were of more significance than labour-related aspects which were external to enterprises. The exception which was made as far as the legal framework was concerned, indicates that the respondents were particularly concerned about the impact of legal issues on labour relations in manual worker enterprises.

4.3 Differences between the theoretical and the empirically-based ranking of labour-related aspects in respect of *knowledge* worker enterprises

The differences in ranking of the labour-related aspects when a theoretical approach is followed compared to an empirically-based ranking thereof are highlighted in Table 5/2.

TABLE 5/2: DIFFERENCES BETWEEN THE THEORETICAL RANKING OF THE LABOUR-RELATED ASPECTS AND THE RANKING WHICH RESULTED FROM THE EMPIRICAL STUDY AS FAR AS *KNOWLEDGE* WORKER ENTERPRISES ARE CONCERNED

Labour-related aspects which are of significance when the degree of labour-related risk at enterprises is determined	Theoretical ranking	Empirical ranking	Difference between rankings (Yes/No)
The labour force is of importance for the operations of the enterprise	1	1	No
The values and goals of leadership or management differ from those of the rest of the labour force	2	2	No
The enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	3	4	Yes
The structure and systems (policies and procedures) of the enterprise create and sustain an unfavourable work environment	4	5	Yes
The legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	5,6 or 7	7	No
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	5,6 or 7	3	Yes
The enterprise is characterised by an unfavourable external environment with adverse labour relations implications	5,6 or 7	6	No

Source: Table 4/35 in Chapter 4 and paragraph 4.1 of Chapter 5.

Comparison of the theoretically-based ranking of the labour-related aspects and the empirically-based ranking, reveals three differences. Closer analysis indicates that the differences can be attributed to the different ranking of only one labour-related aspect, that is, the ranking of labour shortages in quantitative and/or qualitative terms which are likely to occur due to an insufficient internal or external supply of labour. In theory, one would have expected this labour-related aspect to be ranked anywhere from number five to seven, while the respondents ranked it as the third most significant labour-related aspect with which knowledge worker enterprises are confronted. The respondents therefore ranked labour shortages as an even more significant labour-related aspect than two labour-related aspects which are internal to the enterprise (these are dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices, as well as the structure and systems of the organisation which create and sustain an unfavourable work environment).

The high ranking of labour shortages by the respondents reflects great concern among them that knowledge worker enterprises, which are well managed from an operational point of view, may struggle to function optimally due to an inability to attract staff with appropriate

skills in sufficient numbers. This largely refers to an under-supply of skilled workers in South Africa. It can also be interpreted as an indication by the respondents that knowledge worker enterprises should, in particular, focus on issues internal to the enterprise that limit staff turnover.

5. SUMMARY

Classification trees were introduced in this chapter as an appropriate tool for institutional investors to measure the degree of labour-related risk at enterprises for the purpose of financial investment decision-making. Separate classification trees were developed for manual worker and knowledge worker enterprises by making use of the information obtained during the empirical study. The classification trees were therefore not constructed from actual cases where the variables could be measured and the eventual outcomes were known at enterprises, but rather from the perceptions of the respondents regarding the impact of labour-related risks on financial investment decision-making. This was done by converting the seven labour-related aspects (in order of significance, as disclosed by the respondents) into binary questions.

The degree of labour-related risk at any one enterprise depends on the binary questions asked, the answers to these questions, as well as on the order in which these questions are asked. With this in mind, it was decided to examine the empirically based classification trees from a theoretical point of view.

The ranking of the labour-related aspects from a theoretical point of view, however, requires certain assumptions to be made, because no sources of information were identified during the literature study which refer to the ranking of labour-related aspects in order of their significance, when the degree of labour-related risk at enterprises is determined for the purpose of financial investment decision-making. The first assumption is based on common sense which indicates that the "importance of the labour force for the operations of the enterprise" should be regarded as the most significant labour-related risk aspect. The second assumption maintains that the labour-related aspects that are internal to the enterprise are generally of more significance than external environmental labour-related aspects when the degree of labour-related risk at enterprises is determined. Thirdly it is assumed that (as far as the ranking of the labour-related aspects which are internal to the enterprise is concerned)

labour-related aspects which are deep-seated in the enterprise and therefore difficult to influence, should carry more "weight" than labour-related aspects which are easier to influence. Lastly, it is assumed that the ranking of the external environmental labour-related aspects are not fixed, but may vary depending on the interaction between the enterprise and the environment in which it exists.

Two basic differences arise between the theoretical ranking of the labour-related aspects and the empirical ranking thereof in respect of *manual* worker enterprises. The first relates to the fact that the respondents were of the opinion that manual workers were more concerned about labour-related aspects which have an impact on their immediate work environment (this refers to dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices) than about conflicting values and goals in the enterprise, while, in theory, the opposite was expected. The respondents' ranking of these two labour-related aspects can be criticised as an underestimation of the conflict potential resulting from different values and goals in the enterprise. The work unit will remain inherently unstable if the values and goals of leadership or management differ from those of the rest of the labour force. In addition, an underestimation of the importance of strategic issues such as values and goals might result in a focus on labour-related risk symptoms rather than on the causes thereof. The second basic difference between the theoretical and empirical ranking of the labour-related aspects for manual worker enterprises relates to the fact that the respondents were of the opinion that, in contrast to theory, manual worker enterprises in South Africa were faced with one external labour-related aspect, viz. the legal environment which is of greater significance than a labour-related aspect which is internal to enterprises, namely structure and systems. This indicates that, although the respondents generally agreed that labour-related aspects which are internal to enterprises are of more significance than labour-related aspects which are external to enterprises, they were particularly worried about the impact of legal issues on labour relations in manual worker enterprises.

The differences between the theoretical and empirical ranking of the labour-related aspects for *knowledge* worker enterprises can be attributed to the different ranking of only one labour-related aspect, that is, the ranking of labour shortages in quantitative and/or qualitative terms which are likely to occur due to an insufficient internal or external supply of labour. From a theoretical point of view, it is surprising that the respondents ranked this labour-related aspect as more significant than two labour-related aspects which are internal to the

enterprise, namely dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices, as well as the structure and systems of the organisation which create and sustain an unfavourable work environment. The high ranking of labour shortages by the respondents expresses a concern among them about the ability of knowledge worker enterprises to attract staff with appropriate skills in sufficient numbers. It can also be interpreted as an indication by the respondents that knowledge worker enterprises should, in particular, focus on issues internal to the enterprise which limit staff turnover.

CHAPTER 6

SUMMARY AND DISCUSSION OF THE MAIN FINDINGS AND CONCLUSIONS AS WELL AS APPLICABLE RECOMMENDATIONS

1. INTRODUCTION

Notwithstanding the importance of institutional financial investments and labour-related risks to the South African economy, researchers have paid little attention to the interdependence of these two issues. As a result of the gap in the existing literature, there is a potential for inefficient financial investment decision-making with a resultant non-optimal allocation of valuable capital on the JSE Securities Exchange South Africa (previously known as Johannesburg Stock Exchange). With this in mind, the objective of this study, as mentioned in Chapter 1, included the evaluation of the impact of labour-related risks on financial investment decision-making regarding long-term insurance assets, given the basic theory available in this regard. The resultant recommendations can lead to better utilisation of the said theory by investors in general. To achieve this objective, a literature study was undertaken and information about the relevant aspects was obtained by means of personal interviews with investment practitioners responsible for financial investment decision-making regarding long-term insurance assets.

The literature study and personal interviews highlighted the complicated nature of this subject. With this in mind, a user-friendly tool was developed to measure the degree of labour-related risk at enterprises and to provide institutional investors with a holistic decision-making model that has more efficient financial investment decision-making in mind.

In this chapter, the findings and conclusions reported in the preceding chapters are summarised, and applicable recommendations are made with more efficient financial investment decision-making on the JSE Securities Exchange South Africa in mind.

2. FINDINGS AND CONCLUSIONS RESULTING FROM THE LITERATURE STUDY (CHAPTERS 2 AND 3)

The findings and conclusions of the literature study receive attention hereunder.

2.1 The preliminary classification of the importance and relevance of labour-related risks for the purpose of financial investment decision-making (Chapter 2)

The study of the aspects that have to be considered for a preliminary classification of the importance and relevance of labour-related risks for the purpose of financial investment decision-making led to the conclusion that labour-related risks will be important in this regard if it is important for the operations of the enterprise *and/or* relevant to institutional investors. This emphasises not only important alternatives which exist for labour-intensive enterprises to become attractive for the purpose of financial investment decision-making, but also the responsibility of institutional investors to consider all relevant labour-related facts before coming to a conclusion.

Labour intensity has been identified as a first factor to consider when formulating a preliminary opinion regarding the *importance* of labour-related risks for the operations of the enterprise. With regard to labour intensity, a distinction is made between obvious labour intensity and effective labour intensity. The size of the workforce and labour's share of the annual value added to the business (both in comparison with the extent of the enterprise's total assets and operations), provide a reliable indication of the former. The labour force's bargaining power also has to be considered before an opinion can be expressed about effective labour intensity. *Unionisation* is the first factor that should be considered to arrive at effective labour intensity. In this regard, the geographical diversification of the labour force, and the current union density and trend thereof, play an important role. Another factor to be considered, is whether *one or more subsectors in the labour force* are of critical importance to the operations of the enterprise. *Capital intensity* is the third factor to be taken into account when the labour intensity of an enterprise is evaluated, because capital intensity has the potential to emphasise the importance of labour as a production factor. The *capital structure of the enterprise* is the last factor that may have an effect on obvious labour intensity. In this regard, it was argued that the employees of enterprises with relatively low equity ratios will be less inclined to demand high wage increases than would be the case in enterprises without interest-bearing debt.

Labour stability is the second factor to be considered to form a preliminary opinion regarding the importance of labour-related risks for the operations of the enterprise. *Strikes*, as a way of industrial action, have been identified as an important indicator of labour instability. In

addition to strikes, various other indicators of labour instability exist within as well as external to enterprises. The most important internal indicators of labour instability include *absenteeism, staff turnover, work to the rule, a refusal to do overtime and sabotage of operations.* External indicators of labour instability include *product and service boycotts,* as well as the *eliciting of sympathy from others.* The use of *dispute settlement mechanisms* represents the last group of labour instability indicators. This includes conciliation, mediation, arbitration and cases that have been referred to the Labour Court.

Once the importance of labour-related risks for the operations of the enterprise have been determined, institutional investors should assess the *relevance* of labour-related risks for the purpose of financial investment decision-making. The anticipated *payback period* is an aspect to consider in determining the relevance of labour-related risks for institutional investors. It has been argued that the relevance of labour-related risks increases for institutional investors with an increase in the anticipated payback period. The *marketability* of an investment is a second factor that has an impact on the relevance of labour-related risks for institutional investors. The *incremental effect on labour-related risks inherent in the existing investment portfolio* is the final aspect to take into account when the relevance of labour-related risks for institutional investors is evaluated. The main conclusion in this regard is that it is not the risk of the share in isolation that is of importance, but rather its impact on uncertainty about the future market value of the investment portfolio.

2.2 The detailed study of labour-related risks for the purpose of financial investment decision-making by institutional investors (Chapter 3)

Various aspects which should be considered when institutional investors embark on a *detailed study* of labour-related risks for the purpose of financial investment decision-making were highlighted in this chapter. The detailed study should not be regarded as replacing the preliminary study, but rather as a *complement* with better informed decision-making in mind. Institutional investors should therefore not discard the insights obtained through the preliminary study, but rather incorporate them together with the information obtained in the detailed study when labour-related risks are assessed.

In the summary that follows, the aspects that should receive the attention of institutional investors during the detailed study of labour-related risks, are set out. These aspects include

external environmental and company-specific labour-related risk factors. It is important to note that the external environmental factors co-exist and influence each other. Similarly, the company-specific risk factors co-exist with and influence, as well as are influenced by, the external environmental factors that are relevant for labour-related risks.

2.2.1 The external environment

The **political environment** is the first external environmental factor that is relevant for the purposes of labour risk assessment. Institutional investors must therefore determine to what extent *political stability* exists, because stability means predictability and less uncertainty about possible future developments. Thereafter the impact of parties with *political power* on the labour scene should be taken into account. The investor-friendliness of government's *labour market policy* is the final aspect of the political environment that should receive attention. This aspect should not be assessed in isolation, but relative to the labour market policies present in the rest of the world.

The **economic environment** is the second environmental factor impacting on labour-related risks. The *business cycle* is the first factor to consider in this regard, because the priorities of employers and employees differ during different phases of the business cycle. The *level and trend in unemployment* is another aspect that must be taken into account. *Inflation and the maintenance of wealth in real terms* also is an economic phenomenon that is relevant to the relationship between employers and employees. In addition to local economic factors, the impact of the *global economic environment* on South African labour-related risks should not be underestimated.

The external environment also includes the **social environment.** The social environment has an impact on the *beliefs, values, attitudes and opinions* which employees bring to the workplace. This has the potential to create tension, especially if the social backgrounds of the parties to the labour relationship have little in common. Institutional investors should therefore focus on the impact which *cultural aspects and demographic characteristics,* as well as *the distribution of skills and education amongst various social groups* might have on the employment relationship.

The **technological environment** is the last external environmental factor which institutional investors have to consider when assessing labour-related risks for the purpose of financial investment decision-making. It is important that institutional investors determine the potential *impact of technological change on employment* at the enterprise. Technological change is making its presence felt in enterprises through its impact on *production processes* as well as to the extent that it contributes to the *obsolescence of skills.* Although it is unlikely that employees will be able to stop new technology from being implemented, the *extent and manner of co-operation* between management and labour when they deal with technological change has the potential to limit its inherent conflict potential.

2.2.2 The company-specific factors relevant to labour-related risks

The **track record of labour relations** at the enterprise is the first company-specific factor to be considered in order to have a better grasp of labour-related risks at the enterprise. *Labour disputes*, or more specifically, the causes of industrial conflict and the typical behaviour used to solve conflict, is the first aspect which will improve institutional investors' understanding of the track record of labour relations. The extent and nature of *employee turnover and absenteeism* are further aspects that will be of value in explaining such a track record. The *timing of labour unrest* in the past and the *historic trend of creating value in the business* are the last two aspects which will help institutional investors in their understanding of the track record of labour relations at the enterprise. With regard to the historic trend of value creation, institutional investors should not only focus on the extent of value created in the past, but also on whether the distribution thereof had been budgeted for and agreed upon by the various stakeholders to achieve the long-term goals of the enterprise.

The **legal framework** in which labour relations are practised is a further company-specific factor that impacts on labour-related risks. In this regard, institutional investors should, in the first place, pay attention to the extent that the Labour Relations Act gives protection to the *right of employees to strike.* It is also important to investigate to what extent the legal framework limits the *flexibility of labour.* The latter refers to limitations that are placed on the ability of employers to alter the size of their workforces. This includes restrictions on employers' right to hire, as well as on their right to dismiss employees. The establishment of *workplace forums* in terms of the Labour Relations Act is the final aspect of the legal framework which institutional investors have to consider when assessing labour-related risks.

The creation of workplace forums *in addition to* the traditional collective bargaining structure to deal with issues that are interrelated, has the potential to create confusion and rivalry amongst employees, which is conducive to conflict. It further places an obligation on employers to consult with the workplace forum on a variety of issues concerning production and human resources, which has the potential to delay decision-making. Disputes might also arise from the obligation placed on employers to disclose all relevant information that will allow the workplace forum to engage effectively in consultation and joint decision-making.

Institutional investors should also focus on the **existence of behavioural agreements.** Behavioural agreements enable employers and employees to limit the labour-related risks which are inherent in the Labour Relations Act, and explain much about the culture of labour relations at an enterprise.

The existence of sound **labour relations practices** is another company-specific factor relevant to labour-related risks. Institutional investors should therefore assess the labour relations practices of the enterprise to determine their impact on labour-related risks. The *recruitment and interviewing practices* at the enterprise is the first aspect to consider under this heading, because it is the responsibility of the enterprise to find the right person for the right job. Institutional investors should therefore at least determine to what extent prospective employees are subjected to recruitment and selection tests. It is also important that enterprises communicate their performance expectations clearly to prospective employees, otherwise prospective employees might have unrealistic expectations and not be able to judge whether they would fit into the enterprise.

It is also important to evaluate the *participation of the employees in decision-making*, because it can help to overcome conflict between the enterprise and the employees. It can also bring about greater commitment and involvement on the part of the employees and thereby, greater motivation and higher productivity.

The *sharing of information between the employer and employees* is vital to achieve mutual understanding between all the individuals working for the enterprise. Communication helps to limit labour-related risks, because it reduces misunderstandings. Institutional investors should therefore obtain evidence of labour's satisfaction with communication and have a proper understanding of the factors which have an impact on mutual understanding in the

enterprise. Organisational culture is the first factor that has an impact on mutual understanding in the enterprise. The diversity of the labour force, which refers to aspects such as the presence of various cultural groups, racial diversity, language diversity and educational differences, is another factor which has the potential to impact on mutual understanding in the enterprise. Mutual understanding is also influenced by aspects such as the style of communication in the enterprise, and the involvement of trade unions that have the potential to influence the sharing of information within the enterprise. Management has an important role to play in limiting these risks by, for example, increasing the opportunities for communication and the training of employees to enhance their ability for better mutual understanding.

The *financial empowerment of the employees* is another aspect to be considered when the existence of sound labour relations practices are investigated. The interests of shareholders and the labour force do not necessarily coincide as far as the distribution of company resources is concerned, because shareholders generally want to maximise wealth, whereas employees hold claims with pay-offs, irrespective of the enterprise's performance. Institutional investors should be aware of these conflicting interests and determine to what extent the enterprise's compensation policy and practices have an impact on labour-related risks. With this in mind, institutional investors should in the first place determine whether pay differentiation is applied fairly in the enterprise. Differences in pay based on different levels of income uncertainty, skills, education, experience and individual performances are generally regarded as fair. In contrast, pay differentiation based on race and/or gender only cannot be regarded as a sound labour practice, because there are no grounds for discrimination between employees making similar contributions to the success of the enterprise. The wage gap between top management and the rest of the labour force should also be considered when the compensation practices of an enterprise are evaluated. Notwithstanding the difficulty in defining a reasonable wage gap between top management and the rest of the labour force, an already high and escalating wage gap would be difficult to motivate in the absence of fair and market-related pay to ordinary employees. The components of compensation is the final aspect of the financial empowerment of employees which requires the attention of institutional investors. Components of compensation refer to the way in which the remuneration package is structured, and whether it includes a variable component as well as the employee's basic salary. The ultimate goal with components of compensation is to improve the financial performance of enterprises. Success in this regard

depends on whether management and the labour force trust each other when variable pay is introduced. It further requires that management abstain from a top-down approach where profit sharing is concerned, and that the labour force should preferably be involved from the planning stage thereof.

The *development of human resources* is another important aspect which institutional investors should keep in mind when they formulate an opinion about the existence of sound labour relations practices at an enterprise. The need for the development of human resources will become apparent when institutional investors consider the importance of adequately trained human resources for the sustainable performance of the enterprise. Once institutional investors have a good understanding of the need to develop employees at a particular enterprise, they can proceed to determine what efforts have been made to develop the labour force. The adequacy of the actual investment in the development of its employees by an enterprise is the first aspect to consider in this regard. In the second place, institutional investors should determine whether the enterprise has a formal human resources development strategy to guide future efforts in this regard. It is also important to evaluate the relevance of the development programme. This requires an interactive process between the personnel department, line managers and the other stakeholders to ensure that training and development reflect the real needs at ground level.

Institutional investors should also determine whether the enterprise is characterised by *reasonable working conditions*. The latter refers to an environment where employees are able to balance the demands of their working life with that of their private life. Institutional investors therefore have to determine whether there are aspects that jeopardise a harmonious relationship between the working and private lives of employees. Aspects which need to be considered in this regard include the working hours of employees, their personal circumstances, the demographic characteristics of the labour force (for example the presence of women in the labour force), as well as the domestic responsibilities of employees. Once institutional investors have a better idea of aspects which might act as constraints to reasonable working conditions, they should proceed to determine what is done by the enterprise to limit conflict between the working and private lives of employees. Flexible work arrangements such as flexitime and compressed workweeks are valuable tools in combating aspects that cause conflict between the working and private lives of employees. Success with the implementation of flexible working arrangements is not guaranteed and

depends on the enterprise having a formal policy as a statement of commitment to provide these flexible solutions, a proper training programme to equip managers to implement the policy which deals with work versus family interests, regular measurement of progress made with the implementation of this policy, as well as regular communication between management and employees in this regard.

Employment equity is the last aspect that can be used as an indicator of the existence of sound labour relations practices. Employment inequalities such as occupational segregation, inequalities in pay and lack of access to training and development opportunities based on ethnic, gender and disability grounds, are associated with a number of disadvantages. These disadvantages include the underutilisation of human resources, a lack of commitment among employees and high operating costs because of high employee turnover, absenteeism and job dissatisfaction. The detrimental consequences of underutilisation of human resources due to employment inequalities are particularly relevant and important in South Africa, because those who are worst affected by these practices locally are in the majority and not in the minority. The stated purpose of the Employment Equity Act is to achieve equity in the workplace through the elimination of unfair discrimination and to implement affirmative action measures to redress the disadvantages in employment experienced by black people, women and people with disabilities, in order to ensure their equitable representation in all occupational categories and levels in the workforce. The Employment Equity Act has a mixed impact on labour-related risks. On the one hand, it has the potential to reduce labour-related risks that result from discriminatory work practices. On the other hand, it tends to increase other labour-related risks. The first of these risks results from the fact that discrimination on one or more grounds as listed in the Employment Equity Act is regarded as unfair, unless the enterprise can prove that the discrimination is fair. The burden of proof on enterprises in this regard extends beyond existing employees, because it might even be necessary to defend an appointment when an unsuccessful applicant claims that there has been unfair discrimination against him or her. There is also concern that affirmative action could be prejudicial to productivity, given the fact that it affects the majority of the population, and the uncertainty which exists as to whether it is possible to properly train previously disadvantaged individuals to be globally competitive within a relatively short period of time. For institutional investors, the last and perhaps one of the most important risks inherent in the Employment Equity Act results from the fact that international experience, as far as equal opportunity and affirmative action are concerned, may differ from

that of South Africa, where previously disadvantaged persons represent the majority of the workforce.

The **contingent liabilities for the enterprise in respect of the labour force** is another important company-specific factor which institutional investors have to consider while doing a detailed study of labour-related risks for the purpose of financial decision-making. Post-retirement benefits resulting from the agreed employment relationship such as pension funds and medical aid schemes are contingent liabilities for the enterprise that might have a significant impact on labour-related risks. When assessing the impact of post-retirement benefits on labour-related risks, institutional investors should take cognisance of those aspects that influence the size of the contingent liability for the enterprise.

In the first place, the size of the contingent liability in respect of pension funds is determined by the *type of fund.* A distinction can be made between defined contribution plans and defined benefit plans. For a defined contribution plan, there is no contingent liability for enterprises. Defined benefit plans result in a contingent liability, because the enterprise is obliged to provide the promised retirement benefits, irrespective of the funding arrangements made. The *funding policy* has an impact on the size of the contingent liability inherent in a defined benefit plan. When a plan is funded, the payment of retirement benefits as they fall due depends on the financial position and the investment performance of the fund, as well as the ability of the enterprise to make good any shortfall in the fund's assets. When a plan is not funded, the payment of retirement benefits depends on the ability of the enterprise to meet the retirement benefit obligations as they fall due. It is therefore not the gross obligation of the enterprise which is of importance in this regard, but rather the enterprise's obligation after deduction of the current actuarial value of assets which have been transferred to the fund to meet future obligations for the payment of retirement benefits. The *pension fund rules* are another important aspect that has an impact on the size of the contingent liability in this regard. A distinction can be made between pension fund rules which are biased in favour of the enterprise (this reduces the size of the contingent liability) and those which are in favour of the employees (which tend to increase the size of the contingent liability). Pension fund rules that are overwhelmingly in favour of the enterprise might result in other labour-related risks. It is therefore important that institutional investors also pay attention to the way these rules have evolved. Given the importance of pension fund rules in determining the size of the contingent liability, it is important to establish who has *control of the pension fund's board of*

trustees. Enterprise control of the pension fund's board of trustees combined with pension fund rules which are biased in favour of the employer therefore mitigate against contingent liabilities which might exist as a result of the type of fund present at the particular enterprise.

When assessing the contingent liability resulting from the provision of a medical aid scheme, the same basic approach as in the case of pension funds should be followed. The content of *medical aid policy documents, letters of appointment of employees* and *negotiated agreements* between the enterprise and the labour force will be of prime importance. In addition, the *funding policy* will also have an impact on the size of the contingent liability in this regard.

The detailed study of labour-related risks for the purpose of financial decision-making also includes an assessment of the **availability of labour** given the labour resources needs of the enterprise. This requires that institutional investors estimate to what extent sufficient labour resources will be available to the enterprise in the future to prevent labour shortages. Labour shortages will put the sustained performance of the enterprise at risk. The risk of such shortages occurring at the enterprise depends on the demand and supply of labour. As a first step, institutional investors should pay attention to the *adequacy of the existing labour force in both quantitative and qualitative terms* in meeting the current needs of the enterprise. Any current labour shortages will immediately place the enterprise in a higher risk category. The next step for institutional investors should be to determine to what extent the expected future supply of labour from external sources will be adequate to meet the enterprise's demand for labour. The *external supply of labour* will depend on the size and growth of the population, immigration and emigration, investments in skills development, the elasticity of the supply of labour, as well as the impact of the business cycle. The *future demand for labour* at the enterprise will to a large extent be determined by the level of its future business activities, the existence of various subgroups such as different skills levels, the geographical distribution of its labour force, the business cycle and the elasticity of the enterprise's demand for labour. A comparison of the enterprise's demand for labour with the expected future supply of labour from external sources will enable institutional investors to assess the *likelihood of future labour shortages at the enterprise due to an insufficient external labour supply*. Should the analysis point to a significant risk of an insufficient external labour supply in future, it is of particular importance that institutional investors pay attention to actions taken by the enterprise to combat these expected labour shortages. *Enterprise interventions to reduce the*

risk of an insufficient external labour supply include the *training* of employees, *promotion-from-within* as a development strategy, the *creation of enterprise-specific skills* to limit poaching of employees by competitors, the provision of *support services to attract skilful employees* which would otherwise have been lost to the labour market, the creation of a *flexible working environment, counter-cyclical hiring,* and the utilisation of *technology-based solutions*.

The **enterprise's view of the labour force** is the penultimate company-specific factor which institutional investors should consider when they conduct a detailed study of labour-related risks. The enterprise's view of the labour force will to a large extent determine whether the labour force is regarded as an asset to be nurtured or merely a cost that should preferably be limited. The enterprise's treatment of the labour force will influence how the labour force experience the enterprise, which in turn will affect their motivation and commitment. Given the relevance of the enterprise's view of the labour force for labour-related risks, it is important for institutional investors to give attention to those aspects that reflect this view. These include the *mission and strategy of the enterprise*, the *organisational culture, leadership's approach to the labour force, management practices* (which refer to what managers do in the normal course of events to use human and material resources at their disposal to carry out the enterprise's strategy), the *organisational structure,* as well as the *systems* in place at the enterprise which refer to standardised policies (such as the organisation's reward system) that facilitate work.

The labour force's view of the enterprise is the last company-specific factor that has to be covered in the detailed study of labour-related risks for the purpose of financial investment decision-making. The labour force's view of the enterprise is a reflection of how the employees experience the enterprise. The way in which the labour force experience the enterprise has the potential to influence their motivation and commitment. A number of aspects exist which can be regarded as a reflection of the labour force's view of the enterprise. These aspects, which are usually covered by employee opinion surveys, include the *morale* of the labour force, the *attitude* of the employees, the *labour climate* within the enterprise and the *culture* of the employees. In the last instance, the labour force's view of the enterprise should be compared to the enterprise's view of the labour force to identify possible differences of opinion. The risk potential associated with the labour force will tend to increase if the enterprise and the labour force differ on these key issues.

Originating from the preceding summary, the following are suggested as typical questions for assessing labour-related risks in enterprises for the purpose of financial investment decision-making:

1) Is the enterprise characterised by an unfavourable external environment with adverse labour relations implications?
2) Is the labour force important for the operations of the enterprise?
3) Does the legal framework create a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise?
4) Do the structure and systems of the enterprise create and sustain an unfavourable environment?
5) Is the enterprise characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices?
6) Do the values and goals of leadership or management differ from that of the rest of the labour force?
7) Are labour shortages in quantitative and/or qualitative terms likely to occur due to an insufficient internal or external supply of labour?

3. FINDINGS AND CONCLUSIONS RESULTING FROM THE EMPIRICAL STUDY (CHAPTER 4)

The findings and conclusions resulting from the empirical study can be summarised as follows:

3.1 General information

1) Long-term insurance assets represent a significant portion of institutional assets invested on the JSE Securities Exchange South Africa.

2) Institutional investors who are juridically related to long-term insurers (i.e. in the same group of companies) are able to play financially a more influential role than those who are not juridically related when financial investment decisions are taken on the JSE Securities Exchange South Africa regarding the assets of long-term insurers.

3) A significant amount of decision-making power, as far as the financial investment of long-term insurance assets is concerned, is concentrated in the hands of a small number of investment management companies.

3.2 Information about the decision-making process applicable to financial investment decision-making as far as long-term insurance assets are concerned

1) The respondents pay little or no attention to approximately 50 per cent of the companies listed on the JSE Securities Exchange South Africa, on the assumption that the respondents focus mainly on the large companies.

2) The majority of investment practitioners (including investment analysts and portfolio managers) who are responsible for the financial investment decisions of long-term insurers, should be able to assess each of the prospects included in their target groups of companies thoroughly, as they have at least a week on average to assess each prospect during a year.

3) The majority of investment practitioners either fairly often or always do independent research, and also fairly often or always make use of investment reports prepared by reputable external researchers.

4) The vast majority of investment practitioners follow the practice of specifying exposures in respect of individual companies for the purpose of portfolio management. Approximately 57 per cent of the respondents are allowed to deviate from the exposures specified in respect of individual companies. The vast majority of them are allowed a maximum deviation of 10 per cent. Conditions that must be met for deviation include that investment practitioners must adhere to the regulations or guidelines specified by the Financial Services Board, their clients and employers.

5) All respondents indicated that the same financial investment decision-making process is followed, irrespective of whether long-term insurance assets or assets managed on behalf of other clients are concerned.

6) The number of investment practitioners employed is:
   a. Positively correlated with the number of companies monitored.
   b. Negatively correlated with the number of companies monitored by each investment practitioner.
   c. Positively correlated with the practice to do independent research.

7) Both the total investments and total assets in respect of each investment practitioner are positively correlated with the practice of making use of investment reports prepared by reputable external researchers.

3.3 Information about the practice of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making of long-term insurance assets by the intuitive evaluation of certain key labour-related risks

1) The habit of institutional investors of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making, by the intuitive evaluation of certain key labour-related risk factors, can be regarded as the same for manual and knowledge worker enterprises, and is reverted to fairly frequently.

2) The respondents regard the following risk factors, that have to be considered in formulating a preliminary opinion about the *importance* of the labour-related risks for the operations of the enterprise, as equally important according to the sign test for manual and knowledge worker enterprises (with the approximate importance in brackets):
   a. Labour intensity of the operations (moderately important).
   b. The size of the labour force in comparison with the extent of the enterprise's total assets and operations (moderately important).
   c. The labour force's share of the annual value created in the enterprise in comparison with the extent of the enterprise's total assets and operations (moderately to highly important).
   d. The capital intensity of the operations (moderately to highly important).
   e. The capital structure of the enterprise (moderately important).
   f. Labour stability of the labour force (highly important).

3) The respondents are of the opinion that the following risk factors that have to be considered in formulating a preliminary opinion about the *importance* of labour-related risks for the operations of the enterprise are more important according to the sign test for manual than for knowledge worker enterprises (with the approximate importance in brackets):
   a. Unionisation of the labour force (respectively highly and not important).
   b. Strikes by the labour force (respectively highly and not important).

4) The respondents are of the opinion that the following risk factors that have to be considered in formulating a preliminary opinion about the *importance* of labour-related risks for the operations of the enterprise are more important according to the sign test for knowledge than for manual worker enterprises (with the approximate importance in brackets):
   a. The critical importance of one or more subsectors in the labour force to the operations of the enterprise (respectively highly and moderately important).
   b. The staff turnover at the enterprise (respectively highly and little important).

5) The respondents regard the following risk factors as equally important according to the sign test for manual and knowledge worker enterprises when formulating a preliminary opinion about the *relevance* of labour-related risks for the purpose of financial investment decision-making:
   a. The anticipated payback period (about moderately important).
   b. The marketability of the investment (almost highly important).
   c. The incremental effect on labour-related risks inherent in the existing investment portfolio (moderately important).

6) Significant *correlation* regarding manual worker enterprises between the aspects relating to the formulation of a preliminary opinion on labour-related risks with the general information obtained, and with the aspects relating to the decision-making process, is summarised in what follows:
   a. The importance of unionisation as a labour-related risk factor is positively correlated with:
      i. The size of the assets of long-term insurers in respect of which financial investment decisions are taken.

ii. The total assets per investment practitioner employed.

iii. The use by respondents of investment reports prepared by external researchers.

iv. The number of companies monitored by each investment practitioner.

b. The years of experience that the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the significance of one or more subsectors in the labour force that are of critical importance to the operations of the enterprise.

c. The size of the assets of long-term insurers in respect of which financial investment decisions are taken is positively correlated with the importance of strikes as a labour-related risk factor.

d. The practice of doing independent research is negatively correlated with the importance of the size of the labour force in comparison to the extent of the enterprise's total assets and operations as a labour-related risk factor.

7) Significant *correlation* regarding manual worker enterprises amongst the aspects relating to the formulation of a preliminary opinion in respect of labour-related risks for the purpose of financial investment decision-making, is summarised below:

a. The habit of formulating a preliminary opinion on labour-related risks by the intuitive evaluation of key labour-related risk factors is positively correlated with the importance of the following labour-related risk factors:

i. Labour intensity of the operations of the enterprise.

ii. Labour stability of the labour force.

b. The importance of labour intensity as a labour-related risk factor is positively correlated with the importance of the following labour-related risk factors:

i. The size of the labour force in comparison with the extent of the enterprise's total assets and operations.

ii. Unionisation of the labour force.

iii. Capital intensity of the operations.

c. The importance of labour stability is positively correlated with the importance of strikes.

d. The importance of the marketability of the investment is positively correlated with the importance of the incremental effect of the investment on labour-related risks inherent in the existing investment portfolio.

8) Comparison of the aspects relating to the formulation of a preliminary opinion on labour-related risks with the general information obtained, as well as with the aspects relating to the decision-making process as far as knowledge workers are concerned, yielded only one significant *correlation*. This refers to the negative correlation between the practice of making use of investment reports prepared by external researchers and the importance of the marketability of the investment when formulating a preliminary opinion about the relevance of labour-related risks for the purpose of financial investment decision-making.

9) Significant *correlation* regarding knowledge worker enterprises amongst the aspects relating to the formulation of a preliminary opinion on labour-related risks for the purpose of financial investment decision-making, is summarised below:
   a. The habit of formulating a preliminary opinion on labour-related risks for the purpose of financial investment decision-making by the intuitive evaluation of key labour-related risk factors is positively correlated with the importance of the following labour-related risk factors:
      i. Labour intensity of the operations of the enterprise.
      ii. Incremental effect on labour-related risks inherent in the existing investment portfolio.
   b. The importance of labour intensity as a labour-related risk factor is positively correlated with the importance of the following labour-related risk factors:
      i. The size of the labour force in comparison with the extent of the enterprise's total assets and operations.
      ii. The labour force's share of the annual value created in the enterprise in comparison with the extent of the enterprise's total assets and operations.
      iii. One or more subsectors in the labour force that are of critical importance to the operations of the enterprise.
      iv. Capital intensity of the enterprise.
      v. Capital structure of the enterprise.
   c. The importance of labour stability is positively correlated with the importance of staff turnover.

3.4 Information relating to aspects that are considered when a detailed study is undertaken of labour-related risks for the purpose of financial investment decision-making on long term insurance assets

A detailed study of labour-related risks for the purpose of financial investment decision-making includes an investigation of the external environment as it affects labour relations at the enterprise and an analysis of company-specific labour-related risk factors. The findings and conclusions of the empirical study regarding these two aspects are summarised below.

3.4.1 The external environment

1) Generally, external environmental labour-related risk factors are regarded as of significantly more importance for manual than for knowledge worker enterprises (respectively highly and moderately important).

2) The global business environment, being a component of the economic environment, is the only external environmental labour-related risk factor that is regarded as of equal importance according to the sign test for manual and knowledge worker enterprises (both are moderately important).

3) The respondents are of the opinion that some external environmental labour-related risk factors are of more importance according to the sign test for manual than for knowledge worker enterprises. These risk factors (with the approximate importance in brackets) are summarised below:
   a. The political environment (respectively highly and moderately important), and the following components thereof:
      i. Political stability (respectively highly and moderately important).
      ii. The distribution of political power (respectively moderately and little important).
      iii. Labour market policies (respectively highly and little important).

b. The economic environment (respectively highly and moderately important), and the following of its components:
   i. The business cycle (respectively highly and moderately important).
   ii. The level and trend in unemployment (respectively highly and little important).
   iii. Inflation (respectively moderately and little important).
c. The social environment (respectively moderately and little important), and two of its components, namely:
   i. Different cultural values (respectively moderately and little important).
   ii. Demographic characteristics and trends (respectively moderately and little important).
d. The technological environment (respectively highly and moderately important) and its components, namely:
   i. The impact of technological change on employment, production processes and the obsolescence of skills (respectively highly and moderately important).
   ii. The extent and manner of co-operation between management and the labour force when they deal with technological change (respectively more than and less than moderately important).

4) The skills and education of the population, a component of the social environment, is the only external environmental labour-related risk factor regarded as of more importance according to the sign test for knowledge than for manual worker enterprises (respectively highly and moderately important).

5) None of the external environmental labour-related risk factors *correlate* significantly with the general information obtained or with the aspects relating to the financial investment decision-making process as far as *manual worker enterprises* are concerned.

6) *Correlation* amongst the external environmental labour-related risk factors in respect of manual worker enterprises, is summarised hereunder:
   a. A positive correlation exists between the importance of the political environment as a labour-related risk factor and the importance of political stability, being a component thereof.

b. The importance of the economic environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The business cycle.
   ii. The level and trend in unemployment.
   iii. The global business environment.
c. The importance of the social environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. Different cultural values.
   ii. Demographic characteristics and trends.
   iii. The skills and education of the population.
d. The importance of the technological environment as a labour-related risk factor is positively correlated with the importance of both its components, namely:
   i. The impact of technological change on employment, production processes and the obsolescence of skills.
   ii. Extent and manner of co-operation between management and the labour force when they deal with technological change.

7) The *correlation* of the external environmental labour-related risk factors with the general information obtained, as well as with the aspects relating to the financial investment decision-making process as far as knowledge worker enterprises are concerned, is outlined in what follows:
   a. The years of experience which the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the importance of the following labour-related risk factors:
      i. Political stability.
      ii. The distribution of political power.
   b. The total assets per investment practitioner employed is positively correlated with the importance of the technological environment as a labour-related risk factor.
   c. The use by the respondents of investment reports prepared by external researchers is negatively correlated with the importance of inflation as a labour-related risk factor.

8) A summary of the *correlation* amongst the external environmental labour-related risk factors as far as knowledge workers are concerned, is provided below:
   a. The importance attached to external environmental labour-related risk factors in general is positively correlated with the importance of the economic environment as a labour-related risk factor.
   b. The importance of the political environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. Political stability.
      ii. The distribution of political power.
   c. The importance of the economic environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. The business cycle.
      ii. The level and trend in unemployment.
      iii. The global business environment.
   d. The importance of the social environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. Different cultural values.
      ii. Demographic characteristics and trends.
      iii. The skills and education of the population.
   e. The importance attached to the technological environment as a labour-related risk factor is positively correlated with the importance of the following of its components:
      i. Impact of technological change on employment, production processes and the obsolescence of skills.
      ii. Extent and manner of co-operation between management and the labour force when they deal with technological change.

3.4.2 The company-specific factors relevant to labour-related risks

1) In general, company-specific labour-related risk factors are regarded as equally important according to the sign test for manual and knowledge worker enterprises (highly important in both cases).

2) The respondents are of the opinion that the following company-specific labour-related risk factors are equally important according to the sign test for manual and knowledge worker enterprises (with the approximate importance in brackets):
   a. The track record of labour relations (moderately to highly important) and the following of its components:
      i. The causes, extent and nature of employee turnover and absenteeism (moderately important).
      ii. The historic trend of value that has been created, as well as the distribution thereof (moderately important).
   b. The existence of behavioural agreements (moderately important).
   c. The existence of sound labour relations practices (highly important) and the following of its components:
      i. The development of human resources (highly important).
      ii. Reasonable working conditions (moderately important).
   d. The enterprise's view of the labour force (highly important) and all its components, namely:
      i. The mission and strategy of the enterprise (moderately important).
      ii. The organisational culture (moderately to highly important).
      iii. The leadership's approach to the labour force (highly important).
      iv. Management practices (highly important).
      v. The organisational structure (moderately important).
      vi. Systems, that is, policies and procedures (moderately important).
   e. The labour force's view of the enterprise (highly important) and all its components, namely:
      i. The morale of the labour force (highly important).
      ii. The attitude of the labour force (highly important).
      iii. The labour climate within the enterprise (highly important).
      iv. The culture of the labour force (moderately important).

3) The respondents are of the opinion that the following company-specific labour-related risk factors are more important according to the sign test for manual than for knowledge worker enterprises (with the approximate importance in brackets):
   a. Two components of the track record of labour relations, namely:
      i. The causes of labour disputes, typical conflict-handling behaviour of management and the labour force, as well as the appropriateness of such behaviour (respectively highly and little important).
      ii. The timing of labour unrest (respectively moderately and little important).
   b. The legal framework in which labour relations are practised (respectively highly and little important) as well as its components, namely:
      i. The right of employees to strike (respectively moderately and not important at all).
      ii. The flexibility of labour to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment (respectively highly and little important).
      iii. The creation of workplace forums in addition to the traditional collective bargaining structure (respectively moderately and little important).
   c. Contingent liabilities for the enterprise in respect of the labour force (respectively moderately and little important).

4) The respondents are of the opinion that the following labour-related risk factors are more important according to the sign test for knowledge than for manual worker enterprises (with the approximate importance in brackets):
   a. A number of labour-related risk factors that are components of the existence of sound labour relations practices, namely:
      i. Recruitment and interviewing practices (respectively highly and little important).
      ii. The participation of the employees in decision-making (respectively highly and moderately important).
      iii. The sharing of information between the employer and the employees (respectively highly and moderately important).
      iv. The financial empowerment of the employees (respectively highly and moderately important).
      v. Employment equity (respectively highly and little important).

b. The availability of labour (respectively highly and moderately important) as well as its components, namely:
   i. The adequacy of the existing labour force in both quantitative and qualitative terms (respectively highly and moderately important).
   ii. The likelihood of future labour shortages at the enterprise (respectively highly and little important).
   iii. Enterprise interventions to reduce the risk of an insufficient external labour supply (respectively highly and moderately important).

5) *Correlation*, as far as manual workers are concerned, between the importance of the company-specific labour-related risk factors and the general information obtained, as well as with the aspects relating to the financial investment decision-making process, is summarised in what follows:
   a. The size of the assets of long-term insurers in respect of which financial investment decisions are taken is positively correlated with the importance of the following labour-related risk factors:
      i. The track record of labour relations.
      ii. The timing of labour unrest.
   b. Significant correlation exists between the total assets per investment practitioner employed and the importance of the following labour-related risk factors:
      i. The track record of labour relations (positive correlation).
      ii. Recruitment and interviewing practices (negative correlation).
      iii. The adequacy of the existing labour force (negative correlation).
   c. The years of experience which the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the importance of the next two labour-related risk factors:
      i. The adequacy of the existing labour force.
      ii. The labour climate within the enterprise.
   d. Significant correlation exists between the number of investment practitioners employed and the importance of the labour-related risk factors mentioned below:
      i. The timing of labour unrest (positive correlation).
      ii. Contingent liabilities in respect of the labour force (negative correlation).

e. The number of companies monitored for the purpose of financial investment decision-making is positively correlated with the importance of employment equity as a labour-related risk factor.

f. The number of companies monitored per investment practitioner employed is negatively correlated with the importance of the following labour-related risk factors:
   i. The historic trend of value that has been created, as well as the distribution thereof.
   ii. The adequacy of the existing labour force.

g. The practice of doing independent research is positively correlated with the importance of the timing of labour unrest as a labour-related risk factor.

h. The use of investment reports prepared by external researchers is negatively correlated with the importance of the adequacy of the existing labour force as a labour-related risk factor.

6) Significant *correlation* amongst the company-specific labour-related risk factors as far as manual workers are concerned, is briefly outlined hereunder:

a. The importance of the track record of labour relations as a labour-related risk factor is positively correlated with the importance attached to the following of its components:
   i. The causes of labour disputes and the handling thereof.
   ii. The causes, extent and nature of employee turnover and absenteeism.
   iii. The timing of labour unrest.
   iv. The historic trend of value that has been created, as well as the distribution thereof.

b. The importance of the legal framework in which labour relations are practiced as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The right of employees to strike.
   ii. The flexibility of labour to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment.
   iii. The creation of workplace forums in addition to the traditional collective bargaining structure.

c. The importance of the existence of sound labour relations practices as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The sharing of information between the employer and the employees.
   ii. The financial empowerment of the employees.
   iii. Reasonable working conditions.
d. The importance of the availability of labour as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The adequacy of the existing labour force.
   ii. The likelihood of future labour shortages at the enterprise.
e. The importance of the enterprise's view of the labour force as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The mission and strategy of the enterprise.
   ii. The organisational culture.
   iii. The organisational structure.
   iv. Systems (policies and procedures).
f. The importance of the labour force's view of the enterprise as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The morale of the labour force.
   ii. The attitude of the labour force.
   iii. The labour climate within the enterprise.
   iv. The culture of the labour force.

7) Significant *correlation*, as far as knowledge workers are concerned, between the importance of the company-specific labour-related risk factors and the general information obtained, as well as with the aspects relating to the financial investment decision-making process, is summarised in what follows:
   a. The years of experience that the official (with whom the interview was conducted) has of financial investment decision-making is positively correlated with the importance of the next two labour-related risk factors:
      i. The sharing of information between the employer and the employees.
      ii. The contingent liabilities for the enterprise in respect of the labour force.

b. The number of companies monitored for the purpose of financial investment decision-making is correlated as follows with the importance of the labour-related risk factors stated hereunder:
   i. The timing of labour unrest (positive correlation).
   ii. The adequacy of the existing labour force in both quantitative and qualitative terms (negative correlation).
c. The number of companies monitored per investment practitioner employed is negatively correlated with the importance of the following labour-related risk factors:
   i. The existence of sound labour relations practices.
   ii. The participation of the employees in decision-making.
   iii. The sharing of information between the employer and the employees.
   iv. The financial empowerment of the employees.
   v. Reasonable working conditions.
   vi. The attitude of the labour force towards the enterprise.
d. The practice of doing independent research is positively correlated with the importance of the organisational structure as a labour-related risk factor.
e. The use of investment reports prepared by external researchers is negatively correlated with the importance of the development of human resources as a labour-related risk factor.

8) Significant *correlation* amongst the company-specific labour-related risk factors, as far as knowledge workers are concerned, is briefly outlined hereunder:
   a. The importance of company-specific labour-related risk factors in general is positively correlated with the importance of the following of its components:
      i. The track record of labour relations.
      ii. The existence of behavioural agreements.
      iii. The availability of labour.
      iv. The labour force's view of the enterprise.
   b. The importance of the track record of labour relations as a labour-related risk factor is positively correlated with the importance attached to the following of its components:
      i. The causes of labour disputes and the handling thereof.
      ii. The historic trend of value that has been created, as well as the distribution thereof.
      iii. The causes, extent and nature of employee turnover and absenteeism.

c. The importance of the legal framework in which labour relations are practised as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The flexibility of labour to legal restrictions on the ability of enterprises to alter the size of their labour forces to adapt to changes in the external environment.
   ii. The creation of workplace forums in addition to the traditional collective bargaining structure.

d. The importance of the existence of sound labour relations practices as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The participation of the employees in decision-making.
   ii. The sharing of information between the employer and the employees.

e. The importance of the availability of labour as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The adequacy of the existing labour force.
   ii. The likelihood of future labour shortages at the enterprise.
   iii. Enterprise interventions to reduce the risk of an insufficient external labour supply.

f. The importance of the enterprise's view of the labour force as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The mission and strategy of the enterprise.
   ii. The organisational culture.
   iii. The leadership's approach to the labour force.

g. The importance of the labour force's view of the enterprise as a labour-related risk factor is positively correlated with the importance of the following of its components:
   i. The morale of the labour force.
   ii. The attitude of the labour force.
   iii. The labour climate within the enterprise.
   iv. The culture of the labour force.

3.5 Ranking of labour-related aspects by the respondents in order of their significance when they determine the degree of labour-related risk at enterprises

1) The ranking of labour-related aspects by the respondents in order of their significance when they determine the degree of labour-related risk at manual and knowledge worker enterprises is summarised below (please note that "one" is used to indicate the most critical aspect, followed by "two" for the second most critical aspect, after which the process is continued until "seven", which indicates the least critical aspect is reached).

Labour-related aspects which are of significance when the degree of labour-related risk at enterprises is determined	Manual workers	Knowledge workers
Labour force is of importance for the operations of the enterprise	1	1
Values and goals of leadership or management differ from those of the rest of the labour force	3	2
Enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices	2	4
Structure and systems of the enterprise create and sustain an unfavourable work environment	5	5
Legal framework creates a power imbalance in favour of the labour force, thereby resulting in contingent liabilities for the enterprise	4	7
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal or external supply of labour	7	3
Enterprise is characterised by an unfavourable external environment with adverse labour relations implications	6	6

2) Application of the sign test indicated that the following significant differences of opinion regarding the ranking of the labour-related aspects in respect of manual and knowledge worker enterprises exist:
   a. Two labour-related aspects are regarded as of significantly more importance for manual than for knowledge worker enterprises, namely:
      i. The enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices.
      ii. The legal framework creates a power imbalance in favour of the labour force and further results in contingent liabilities for the enterprise.
   b. The only labour-related aspect that is regarded as of significantly more importance for knowledge than for manual worker enterprises refers to labour shortages in quantitative and/or qualitative terms which are likely to occur due to an insufficient internal or external supply of labour.

3.6 Information relating to the relative importance of labour-related risks for the purpose of financial investment decision-making

1) The respondents regard the relative importance of labour-related risks for the purpose of financial investment decision-making as the same for both manual and knowledge worker enterprises (moderately to highly important).

2) The majority of the respondents (65,2 per cent) are of the opinion that labour-related risks at manual worker enterprises have not increased in importance during the past five years. In contrast, the vast majority of the respondents (95,7 per cent) are of the opinion that labour-related risks at knowledge worker enterprises have increased in importance during the past five years.

3) All of the respondents are of the opinion that labour-related risks at knowledge worker enterprises will increase in importance during the next five years, while a small minority (17,4 per cent of the respondents) mentioned that this will be the case at manual worker enterprises.

4. FINDINGS AND CONCLUSIONS RESULTING FROM THE MEASURING OF LABOUR-RELATED RISKS FOR THE PURPOSE OF FINANCIAL INVESTMENT DECISION-MAKING (CHAPTER 5)

Classification trees were introduced as an appropriate tool for institutional investors to measure the degree of labour-related risk at enterprises for the purpose of financial investment decision-making. Separate classification trees were developed for manual and knowledge worker enterprises by making use of the information obtained during the empirical study. The classification trees were therefore not constructed from actual cases where the variables could be measured and the eventual outcomes were known at enterprises, but rather from the perceptions of the respondents regarding the impact of labour-related risks on financial investment decision-making. This was done by converting the seven labour-related aspects (in order of significance, as disclosed by the respondents) into binary questions.

The degree of labour-related risk at any one enterprise depends on the binary questions asked, the answers to these questions, as well as on the order in which these questions are asked. With this in mind, it was decided to examine the empirically based classification trees from a theoretical point of view.

The ranking of the labour-related aspects from a theoretical point of view, however, requires certain assumptions to be made, because no sources of information were identified during the literature study which refer to the ranking of labour-related aspects in order of their significance, when the degree of labour-related risk at enterprises is determined for the purpose of financial investment decision-making. The first assumption is based on common sense that indicates that the "importance of the labour force for the operations of the enterprise" should be regarded as the most significant labour-related risk aspect. The second assumption maintains that the labour-related aspects which are internal to the enterprise are generally of more significance than external environmental labour-related aspects when the degree of labour-related risk at enterprises is determined. Thirdly it is assumed that (as far as the ranking of the labour-related aspects which are internal to the enterprise are concerned) labour-related aspects which are deep-seated in the enterprise and therefore difficult to influence, should carry more "weight" than labour-related aspects which are easier to influence. Lastly, it is assumed that the ranking of the external environmental labour-related aspects are not fixed, but may vary depending on the interaction between the enterprise and the environment in which it exists.

Two basic differences arise between the theoretical ranking of the labour-related aspects and the empirical ranking thereof in respect of *manual* worker enterprises. The first relates to the fact that the respondents were of the opinion that manual workers were more concerned about labour-related aspects which have an impact on their immediate work environment (this refers to dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices) than about conflicting values and goals in the enterprise, while, in theory, the opposite was expected. The respondents' ranking of these two labour-related aspects can be criticised as an underestimation of the conflict potential resulting from different values and goals in the enterprise. The work unit will remain inherently unstable if the values and goals of leadership or management differ from those of the rest of the labour force. In addition, an underestimation of the importance of strategic issues such as values and goals might result in a focus on labour-related risk symptoms rather than on the causes

thereof. The second basic difference between the theoretical and empirical ranking of the labour-related aspects for manual worker enterprises relates to the fact that the respondents were of the opinion that, in contrast to theory, manual worker enterprises in South Africa were faced with one external labour-related aspect, viz. the legal environment which is of greater significance than a labour-related aspect which is internal to enterprises, namely structure and systems. This indicates that, although the respondents generally agreed that labour-related aspects which are internal to enterprises are of more significance than labour-related aspects which are external to enterprises, they were particularly worried about the impact of legal issues on labour relations in manual worker enterprises.

The differences between the theoretical and empirical ranking of the labour-related aspects for *knowledge* worker enterprises can be attributed to the different ranking of only one labour-related aspect, that is, the ranking of labour shortages in quantitative and/or qualitative terms which are likely to occur due to an insufficient internal or external supply of labour. From a theoretical point of view, it is surprising that the respondents ranked this labour-related aspect as more significant than two labour-related aspects which are internal to the enterprise, namely dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices, as well as the structure and systems of the organisation which create and sustain an unfavourable work environment. The high ranking of labour shortages by the respondents expresses a concern among them about the ability of knowledge worker enterprises to attract staff with appropriate skills in sufficient numbers. It can also be interpreted as an indication by the respondents that knowledge worker enterprises should, in particular, focus on issues internal to the enterprise which limit staff turnover.

5. RECOMMENDATIONS

The following recommendations are aimed at investment practitioners active in the long-term insurance industry, enterprises listed on the JSE Securities Exchange South Africa, and other role players regarding the perceived impact they have on labour-related risks in manual and knowledge worker enterprises. Recommended opportunities for future research are also suggested. The main recommendations of this study are as follows:

5.1 Recommendations to *investment practitioners* active in the long-term insurance industry

Some of the recommendations are general in nature, while others focus on the assessment of labour-related risks either in manual or in knowledge worker enterprises. With this in mind, the main recommendations are summarised as follows:

5.1.1 General recommendations

1) Different criteria should be used to determine whether the practice of specifying exposures in respect of individual companies sufficiently diversifies an investment portfolio, because an investment portfolio that appears to be satisfactorily balanced from an industry point of view may be highly unbalanced from the viewpoint of labour-related risks, due to the fact that the industries may specialise either in manual or in knowledge worker enterprises.
2) Expenses to improve risk management systems and practices should not be evaluated with reference to the size of long-term insurance assets only, but also with reference to the size of assets which can be managed on behalf of other clients.
3) Institutions that employ relatively small numbers of investment practitioners should make a special effort to investigate the possible mechanisation of labour-related risk assessment to reduce the competitive advantage in this regard of institutions with relatively large numbers of investment practitioners employed.
4) Investment practitioners should make use of investment reports prepared by reputable external researchers to test the validity of their own conclusions about investment-related aspects, and not find comfort in sharing the majority view which might result in inefficient financial investment decision-making.

5) Labour-related risk factors are often interrelated and should therefore not be evaluated in isolation.
6) Investment practitioners have a responsibility to request and assess labour-related information similar to the responsibility of enterprises to communicate this type of information.
7) Due credit should be given to collaboration between management and employees to reduce labour-related risks.
8) When assessing the importance of the labour force for the operations of the enterprise, investment practitioners should refrain from focusing only on obvious labour-related risk factors such as the relative size of the labour force and its relative share of the annual value that has been created in the enterprise. Effective labour-related risk factors such as unionisation, the importance of one or more subsectors of the labour force, capital intensity and the capital structure of the particular enterprise should also be taken into consideration.
9) Investment practitioners are recommended to seriously consider applying the classification trees as presented in this study for measuring the degree of labour-related risk in manual and knowledge worker enterprises for the purpose of financial investment decision-making.

5.1.2 Recommendations regarding the assessment of labour-related risks in *manual* worker enterprises

1) The mere presence of a trade union should not be viewed in a negative light, but rather as a reflection of a need among workers to speak collectively when bargaining with management. The historic behaviour of the trade union and its relationship with management should therefore be considered before any conclusions are reached.
2) Strikes should not be regarded as proof of higher labour-related risks among manual than among knowledge worker enterprises, because knowledge workers might have other means to exert pressure on management.
3) An effort should be made to identify highly unionised enterprises on the JSE Securities Exchange South Africa whose shares are undervalued as a result of trade union activities. Superior investment returns can be achieved if investment practitioners, in collaboration with the management of these enterprises, are able to negotiate a mutually beneficial settlement with the trade unions.

4) Care should be exercised not to blame manual workers for perceived labour-related risks when they actually originate in the external environment.
5) The focus should not only be on risks originating in the external environment, but also on enterprise strategies to deal with these risks. An example in this regard would be the co-operation of management and the labour force to deal with the impact of technological change.

5.1.3 Recommendations regarding the assessment of labour-related risks in *knowledge* worker enterprises

1) The expertise of key employees and staff turnover as labour-related risk factors should not be assessed without considering contingency plans of the enterprise for replacing knowledge that might be lost should knowledge workers decide to permanently leave the enterprise.
2) When assessing the skills and education of the population as a labour-related risk factor, investment practitioners should not pay attention to education and skills-development within South Africa only, but also to the mobility of knowledge workers in and out of South Africa.

5.2 Recommendations to *enterprises listed* on the JSE Securities Exchange South Africa

Some of the recommendations are applicable to all enterprises, while others are specific to manual or knowledge worker enterprises. Bearing this in mind, the main recommendations of the study are summarised hereunder:

5.2.1 General recommendations

1) Companies that are of the opinion that their shares are undervalued due to perceived labour-related risks, should first approach institutions that employ large numbers of investment practitioners, because these institutions should have more time available to assess labour-related information.
2) Companies should not only report factual information about labour-related risks to the investment community, but also provide for the prevailing emotions and perceptions of investment practitioners in their communication strategy.

3) Generally, the most critical labour-related aspects to consider when the degree of labour-related risk at manual and knowledge worker enterprises is determined, are internal to these enterprises and can be managed. Management and the labour force of enterprises should take cognisance of their responsibilities in this regard and of the perceived ability they have to significantly influence the degree of labour-related risk at both manual and knowledge worker enterprises.
4) The management of manual and knowledge worker enterprises should provide investment practitioners with the necessary information for assessing labour-related risks for the purpose of financial investment decision-making. The focus should be on information required by investment practitioners for answering the binary questions regarding the seven labour-related aspects included in the recommended classification trees for measuring the degree of labour-related risk in these enterprises.
5) The management of manual and knowledge worker enterprises should take note of the structure of the classification trees recommended in this study, and the impact that the ranking of the seven labour-related aspects have on the degree of labour-related risk at enterprises. A pragmatic approach is required from management to significantly reduce the degree of labour-related risk at their enterprises as perceived by investment practitioners. With this in mind, the primary focus at all times should be on highly ranked labour-related aspects that are negatively assessed by investment practitioners. Time and other resources should only be spent on negatively assessed labour-related aspects with a low ranking if this can be motivated on the basis of the anticipated beneficial impact thereof on negative perceptions about labour-related aspects with a higher ranking.

5.2.2 Recommendations to *manual* worker enterprises

1) Enterprises should:
   a. Focus on investment management companies that handle large amounts of long-term insurance assets to prove and communicate the valuable role trade unions play, because these investment practitioners tend to place a lot of emphasis on the presence of trade unions as an important labour-related risk factor. Cognisance should further be taken of the enterprise's vulnerability in this regard when deciding on an appropriate negotiating strategy with organised labour, because the emphasis placed on unionisation by these prominent investment practitioners may significantly increase the bargaining power of trade unions.

b. Keep in mind that investment practitioners are concerned about the possibility of a loss of financial capital due to the disruptive behaviour of manual workers. Communicate information about the track record of labour relations at the enterprise and inform investment practitioners of agreements between management and the labour force to prevent future losses of financial capital from occurring due to labour actions. Develop a communication strategy aimed at confirming the perception among investment practitioners that labour-related risks in these enterprises are declining in importance.

2) Management should:
   a. Take cognisance of their responsibility to properly manage different cultures in the enterprise and put it to productive use.
   b. Take cognisance of the important role they have to play to reduce perceived labour-related risks in manual worker enterprises by focusing on their management style, given the needs of the enterprise and the labour force, in order to limit the occurrence of dislikes, prejudices and perceived inequalities.

3) Employees should:
   a. Pay particular attention to the economic environment given the emphasis placed on this risk factor by investment practitioners, and refrain from irresponsible behaviour when negotiating with management.
   b. As far as possible not time labour unrest to seriously harm the operations of the enterprise, given the particular emphasis placed on the importance of this labour-related risk factor by investment management companies handling large amounts of long-term insurance assets, employing large numbers of investment practitioners and doing a lot of independent research.

4) Management and employees need to collaborate on a strategy to improve the labour-related risk profile of the enterprise over a period of time, because investment management companies that handle large amounts of long-term insurance assets, in particular, focus on the historic behaviour of manual workers with specific reference to the disruptive nature thereof.

5.2.3 Recommendations to *knowledge* worker enterprises

1) Enterprises should:
   a. Inform investment practitioners of strategies to replace the knowledge of mobile employees in addition to historic quantitative information such as the extent of staff turnover.
   b. Disclose the current and future demand and supply of knowledge workers and what they do to reduce the risk of labour shortages.
   c. Communicate why the intellectual capital of knowledge workers is not at risk with reference to the maintenance of sound labour relations practices at the enterprise and an organisational structure that meets the demands of employees.

2) Management should:
   a. Stay abreast of changes in the information requirements of investment practitioners active in the long-term insurance industry, as the vast majority of the respondents are convinced that labour-related risks at knowledge worker enterprises have increased in importance during the past five years, while they are unanimous in their view that labour-related risks at these enterprises may in future be more important than at the time of the survey.

5.3 Recommendations to *other role players* regarding the impact they have on labour-related risks in manual and knowledge worker enterprises as perceived by investment practitioners active in the long-term insurance industry

Recommendations to role players such as trade unions and political parties are hereafter made, while making a distinction between the perceived impact of these role players on labour-related risks in manual and knowledge worker enterprises.

5.3.1 Recommendations to other role players regarding the perceived impact they have on labour-related risks in *manual* worker enterprises

1) Political role players are perceived to have an important role to play in reducing labour-related risks in manual worker enterprises. It is further important that political role players and organised labour, who both influence political decisions, keep in mind that

government labour market policies are not evaluated in isolation by investment practitioners, but that reference to best practices found in the rest of the world may be applied.

2) Trade unions, as social institutions, should assist at the national and enterprise level in promoting policies to cope with pressures resulting from different cultures in society and at the workplace.

5.3.2 Recommendations to other role players regarding the perceived impact they have on labour-related risks in *knowledge* worker enterprises

1) The emphasis placed by experienced investment practitioners on the importance of political stability and the distribution of political power as labour-related risk factors for knowledge worker enterprises should not be viewed negatively by political role players. Instead of trying to prove experienced investment practitioners wrong, it is recommended that political role players aim at improving investor confidence about future political developments in South Africa.

5.4 Recommended opportunities for future research

The following opportunities for future research are highlighted:

1) A survey among foreign institutional investors active on the JSE Securities Exchange South Africa to determine their perceptions regarding the impact of labour-related risks on financial investment decision-making.
2) A survey among manual and knowledge worker enterprises to determine the perceptions of management and their labour forces regarding the impact of labour-related risks on financial investment decision-making.
3) The application of the recommended classification trees to measure labour-related risks at manual and knowledge worker enterprises for the purpose of financial investment decision-making by applying the tree-growing methodology on actual cases where the variables can be measured and the eventual outcomes are known.
4) Research focusing on effective strategies to reduce the risks associated with the labour-related aspects that have a significant impact on the degree of labour-related risk in manual and knowledge worker enterprises.

ANNEXURE A

UNIVERSITEIT VAN STELLENBOSCH
UNIVERSITY OF STELLENBOSCH

3 Januarie 1999

Mnr .....
Die Besturende Direkteur
XYZ Beperk
Posbus .....
JOHANNESBURG
2000

Geagte Meneer

IMPAK VAN ARBEIDSVERWANTE RISIKO'S OP FINANSIëLE BELEGGINGS-BESLUITNEMING DEUR LANGTERMYNVERSEKERAARS

Arbeid is van besondere belang vir die Suid-Afrikaanse ekonomie, aangesien dit die enkel mees belangrike komponent van die land se bruto nasionale produk verteenwoordig. Arbeidsverwante risiko's, wat met verskillende kategorieë werknemers in die arbeidsmag geassosieer word, kan dus nie geïgnoreer word wanneer finansiële beleggingsgeleenthede oorweeg word nie. Desnieteenstaande die betekenisvolheid van arbeidsverwante risiko's vir die doeleindes van finansiële beleggingsbesluitneming, is daar tot dusver relatief min aandag aan die interafhanklikheid tussen hierdie twee aspekte geskenk. Met dit in gedagte, onderneem die Departement Ondernemingsbestuur aan die Universiteit van Stellenbosch tans 'n opname wat fokus op die impak van arbeidsverwante risiko's op finansiële beleggingsbesluitneming deur langtermynversekeraars sover dit hul eie fondse aangaan.

Die inligting rakende u onderneming is van groot belang, aangesien dit een van die prominente institusionele beleggers op die Johannesburgse Effektebeurs is. Ons wil u verseker dat ons die inligting wat ons met hierdie opname inwin as hoogs vertroulik sal hanteer en dit op so 'n manier sal aanwend dat geen respondent geïdentifiseer kan word nie.

Institusionele beleggers sal baat vind by die resultate van hierdie opname wanneer die impak van arbeidsverwante risiko's vir die doeleindes van finansiële beleggingsbesluitneming beoordeel word. In hierdie opsig, het die opname as uitdruklike doelstelling om institusionele beleggers te voorsien van 'n gebruikersvriendelike hulpmiddel ten einde arbeidsverwante risiko's te kan kwantifiseer. Daarbenewens, sal die verkreë resultate ook van besondere waarde vir universiteitstudente wees wat kursusse in Beleggingsbestuur volg. 'n Samevatting van die belangrikste bevindinge van hierdie opname sal aan alle deelnemers, insluitende u onderneming, gestuur word.

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U word daarom vriendelik versoek om aan hierdie opname deel te neem wat gedurende Maart 1999 by die betrokke instellings deur middel van persoonlike onderhoude van nie meer as een uur nie uitgevoer sal word. Die onderhoude sal behartig word deur mnr. J H Mostert, wat hierdie opname in samewerking met myself onderneem. Met dit in gedagte, sal dit waardeer word indien u ons voorsien van die naam en telefoonnommer van die funksionaris wat primêr vir beleggingsnavorsingsaktiwiteite verantwoordelik is sodat 'n afspraak gereël kan word. Voltooi asseblief hierdie besonderhede op die ingeslote bladsy en stuur dit, indien moontlik, voor 31 Januarie 1999 terug in die geadresseerde en gefrankeerde koevert. Alternatiewelik is u welkom om die verlangde inligting te faks vir die aandag van mnr. J H Mostert by faksimilee nommer (021) 421 5107.

Aanvaar asseblief ons verskoning vir enige ongerief wat deur hierdie versoek veroorsaak word. Ons is egter daarvan oortuig dat die resultate van hierdie opname tot die voordeel van institusionele beleggers sal strek sowel as die studente by ons universiteite wat in Beleggingsbestuur spesialiseer.

Die uwe

PROF F J MOSTERT
Professor in Ondernemingsbestuur

UNIVERSITEIT VAN STELLENBOSCH
UNIVERSITY OF STELLENBOSCH

3 January 1999

Mr .....
The Managing Director
XYZ Limited
P O Box .....
JOHANNESBURG
2000

Dear Sir

IMPACT OF LABOUR-RELATED RISKS ON FINANCIAL INVESTMENT DECISION-MAKING BY LONG-TERM INSURERS

Labour is of particular importance to the South African economy as it represents the single most important component of the country's gross domestic product. Labour-related risks which are associated with various categories of employees in the labour force can therefore not be ignored when financial investment opportunities are considered. Notwithstanding the significance of labour-related risks for the purpose of financial investment decision-making, relatively little attention has been paid to the interdependence between these two issues. Against this background, the Department of Business Management at the University of Stellenbosch is at present conducting a survey focusing on the impact of labour-related risks on financial investment decision-making by long-term insurers as far as its own funds are concerned.

The information concerning your enterprise is very important as it is one of the prominent institutional investors on the Johannesburg Stock Exchange. We want to assure you that the information obtained through this survey will be treated as highly confidential and that it will be used in such a way that it will not be possible to identify any respondent.

The results of this survey will benefit institutional investors in their assessment of the impact of labour-related risks for the purpose of financial investment decision-making. In this regard, the survey also has as a stated objective to provide institutional investors with a user-friendly tool which can be used to quantify labour-related risks. Furthermore, the results gained will be of significant value to university students who are following courses in Investment Management. An abstract of the main findings of this survey will be forwarded to all participants including your company.

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You are therefore kindly requested to participate in this survey which will be conducted during March 1999 by means of personal interviews of not more than one hour at the institutions concerned. The interviews will be handled by Mr. J H Mostert who is conducting this survey in association with myself. With this in mind, we should appreciate it if you would provide us with the name and telephone number of the functionary who is primarily responsible for investment research activities whom we may contact to arrange the appointment. Please complete these particulars on the enclosed page and return it in the self-addressed and stamped envelope, if possible before 31 January 1999. Alternatively, you may fax the required information for the attention of Mr. J H Mostert at facsimile number (021) 421 5107.

Please accept our apologies for any inconvenience caused by this request. We are, however, convinced that the results of this survey will benefit institutional investors, in particular, as well as the students at our universities who specialize in Investment Management.

Yours sincerely

PROF F J MOSTERT
Professor of Business Management

ANNEXURE B

UNIVERSITY OF STELLENBOSCH

DEPARTMENT OF BUSINESS MANAGEMENT

Guideline for the discussion of the impact of labour-related risks on financial investment decision-making by long-term insurers.

Please note :

1. The information will be treated in the strictest confidence and in such a way that no investment management company and/or long-term insurer can be recognised.
2. Make a cross in the relevant blocks, where applicable.

A. General

1. Name of the institution. _____
2. Telephone number. _____
3. Position of official interviewed. _____
4. How many years of experience do you have of financial investment analysis/decision-making? _____ Years

5. Which one of the following alternatives best describe your involvement in financial investment analysis/decision-making?

Not at all	1
Once in a while (25% of the time)	2
Sometimes (50% of the time)	3
Fairly often (75% of the time)	4
Always	5

6. Which one of the following descriptions best describe your institution?

Investment management company listed on the Johannesburg Stock Exchange	1
Unlisted investment management company which is a subsidiary of a listed holding company	2
Unlisted investment management company which is a subsidiary of an unlisted holding company	3
Independent investment management company	4
Registered stockbroker	5
Unlisted long-term insurance company which is a subsidiary of a listed holding company	6
Mutual assurer	7
Other (please specify)	8

7. Is your institution related to a long-term insurer

Yes	1
No	2
Uncertain	3

8. Summarised financial information in respect of the long-term insurer(s) whose investments are managed by your institution
   - Investments _____
   - Other Assets _____
   TOTAL _____

B. Financial investment decision-making process

1. Number of investment analysts/portfolio managers employed who primarily focus on equity investments :
   - Industrial _____
   - Financial _____
   - Mining _____
   TOTAL _____
2. Approximate number of companies which are monitored for the purpose of financial investment decision-making.
3. Which one of the following alternatives best describe the practice at your institution to do independent research?

Not at all	1
Once in a while (25% of the time)	2
Sometimes (50% of the time)	3
Fairly often (75% of the time)	4
Always	5

4. Which one of the following alternatives best describe the practice at your institution to make use of investment reports prepared by reputable external researchers?

Not at all	1
Once in a while (25% of the time)	2
Sometimes (50% of the time)	3
Fairly often (75% of the time)	4
Always	5

5. Does the institution follow the practice to specify exposures for the purpose of portfolio management in respect of individual companies?

Yes	
No	
Uncertain	

6. Are portfolio/fund managers allowed to deviate from the exposures specified in respect of individual companies?

Yes	
No	
Uncertain	

7. If you have answered "yes" to the preceding question, what is the maximum deviation allowed from exposures which are specified in respect of individual companies? Your answer to this question must be expressed as a percentage of the specified exposure.

± _____ %

8. If you have answered "yes" to the preceding question, please specify the conditions which must be met for portfolio/fund managers to deviate from the exposures specified in respect of individual companies.

_____

_____

_____

9. To what extent does the financial investment decision-making process applicable to the long-term insurers' own funds deviate from that applicable to asset manages on behalf of other clients?

Not at all	1
Once in a while (25% of the time)	2
Sometimes (50% of the time)	3
Fairly often (75% of the time)	4
Always	5

C. <u>The assessment of the importance of labour-related risk factors for the purpose of financial investment decision-making</u>

1. Which one of the following alternatives best describe the habit at your institution to formulate a <u>preliminary opinion</u> in respect of labour-related risks for the purpose of financial investment decision-making by the <u>intuitive evaluation</u> of certain key labour-related risk factors?

	Predominantly manual workers in the labour force	Score	Predominantly knowledge workers in the labour force
Not at all		1	
Once in a while (25% of the time)		2	
Sometimes (50% of the time)		3	
Fairly often (75% of the time)		4	
Always		5	

2. How important do you regard each of the following aspects in order to formulate a preliminary opinion about the importance of labour-related risks for the operations of the enterprise?

(Not important = 1; Little important = 2; Moderately important = 3; Highly important = 4; Extremely important = 5)

	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
Labour intensity		
Relative size of the labour force		
The labour force's relative share of the annual value		
Unionisation		
One or more sub-sectors in the labour force which are of critical importance to the operations of the enterprise		
Capital intensity		
Capital structure		
Labour stability		
- Strikes		
- Staff turnover		

3. How important do you regard each of the following aspects in order to formulate a preliminary opinion about the relevance of labour-related risks for the purpose of financial investment decision-making?

(Not important = 1; Little important = 2; Moderately important = 3; Highly important = 4; Extremely important = 5)

	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
Anticipated payback period		
Marketability of the investment		
Incremental effect on labour-related risks inherent to the existing investment portfolio		
Other (please specify)		

4. How important do you regard each of the following aspects when a detailed study is done of labour-related risk factors?

(Not important = 1; Little important = 2; Moderately important = 3; Highly important = 4; Extremely important = 5)

	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
External environmental labour-related risk factors		
Company-specific labour-related risk factors		

5. How important do you regard each of the following external environmental labour-related risk factors?

(Not important = 1; Little important = 2; Moderately important = 3; Highly important = 4; Extremely important = 5)

	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
Political environment		
Political stability		
Distribution of political power		
Labour market policy		
Other (please specify)		
Economic environment		
Business cycle		
Level and trend in unemployment		
Inflation		
Global business environment		
Other (please specify)		
Social environment		
Different cultural values		
Demographic characteristics and trends		
Skills and education of the population		
Other (please specify)		
Technological environment		
Impact of technological change on employment, production processes and the obsolescence of skills		
Extent and manner of co-operation between management and the labour force when they deal with technological change		
Other (please specify)		

6. How important do you regard each of the following company-specific labour related risk factors?

(Not important = 1; Little important = 2; Moderately important = 3; Highly important = 4; Extremely important = 5)

	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
Track record of labour relations		
Causes of labour disputes, typical conflict-handling behaviour of management and the labour force, as well as the appropriateness of such behaviour		
Causes, extent and nature of employee turnover and absenteeism		
Timing of labour unrest		
Historic trend of value that has been created, as well as the distribution thereof		
Other (please specify)		
Legal framework in which labour relations are practised		
Right of employees to strike		
Flexibility of labour		
The creation of workplace forums in addition to the traditional collective bargaining structure		
Other (please specify)		
Existence of behavioural agreements		
Existence of sound labour relations practices		
Recruitment and interviewing practices for example : - *Extent to which prospective employees are subjected to recruitment and selection tests* - *Clear communication of performance expectations at recruitment interview, etc.*		
Participation of the employees in decision-making for example : - *Actual participation of employees in decision-making* - *Interest of employees in the participation programme* - *Perceived success which participating employees experience as a result of their endeavour to participate* - *Proper training to ensure that employees are empowered to participate in decision-making* - *Work environment which is conducive for employee participation in decision-making* - *Agreement between management and the trade union on the definition of co-operation, etc.*		
Sharing of information between the employer and the employees for example : - *Labour force satisfaction with communication* - *Impact of organisational culture on mutual understanding in the enterprise* - *Impact of diversity of the labour force on mutual understanding in the enterprise* - *Impact of the style of communication on mutual understanding in the enterprise* - *Impact of the involvement of trade unions on mutual understanding in the enterprise* - *The involvement of management to mitigate the labour-related risks which are associated with the sharing of information between the employer and the employees, etc.*		
Financial empowerment of the employees for example : - *Conflicting interests between shareholders and the labour force as far as the distribution of company resources is concerned* - *Pay differentiation* - *Wage gap between top management and the rest of the labour force* - *Components of compensation, etc.*		
Development of human resources for example : - *Adequacy of actual investment in the development of the labour force* - *Existence of a formal human resources development strategy* - *Relevance of the human resources development programme, etc.*		
Reasonable working conditions for example : - *Existence of working conditions which jeopardise a harmonious relationship between the working and private lives of employees* - *Adequacy of flexible work arrangements to limit conflict between the working and private lives of employees, etc.*		

Employment equity for example : - *The existence of employment inequalities in the workplace* - *The role of the Employment Equity Bill to achieve equality in the workplace, etc.*		
Contingent liabilities for the enterprise in respect of the labour force		
The availability of labour		
Adequacy of the existing labour force in both quantitative and qualitative terms		
Likelihood of future labour shortages at the enterprise		
Enterprise interventions to reduce the risk of an insufficient external labour supply		
Other (please specify)		
Enterprise's view of the labour force		
Mission and strategy of the enterprise		
Organisational culture		
Leadership's approach to the labour force		
Management practices		
Organisational structure		
Systems (policies and procedures)		
Other (please specify)		
The labour force's view of the enterprise		
Morale of the labour force		
Attitude of the labour force		
Labour climate within the enterprise		
Culture of the labour force		
Other (please specify)		
Other (please specify)		

D. Determination of the degree of labour-related risk at enterprises

1. Please rank the following aspects in order of their significance when the degree of labour-related risk at enterprises is determined, by assigning 1 to the most critical aspect, followed by 2 for the second most critical aspect and continue this process until all of the applicable aspects have been assessed in terms of their significance.

Aspects which are of significance when the degree of labour-related risk at enterprises is determined.	Predominantly manual workers in the labour force Rank	Predominantly knowledge workers in the labour force Rank
The labour force is of importance for the operations of the enterprise		
The values and goals of leadership/management differ from that of the rest of the labour force		
The enterprise is characterised by dislikes, prejudices and perceived inequalities which are fuelled by management and labour relations practices		
The structure and systems (policies and procedures) of the enterprise create and sustain an unfavourable work environment		
The legal framework (after taking into account the possible impact of behavioural agreements) creates a power imbalance in favour of the labour force and further results in contingent liabilities for the enterprise		
Labour shortages in quantitative and/or qualitative terms are likely to occur due to an insufficient internal/external supply of labour		
The enterprise is characterised by an unfavourable external environment with adverse labour relations implications		
Other (please specify)		

E. Relative importance of labour-related risks for the purpose of financial investment decision-making.

1. How important do you regard labour-related risks for the purpose of financial investment decision-making?

   (Not important = 1; Little important = 2; Moderately important = 3; Highly important = 4; Extremely important = 5)

Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force

2. Are you of the opinion that labour-related risks have increased in importance during the past five years?

Answer	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
Yes		
No		

3. Do you think labour-related risks will become more important during the next five years?

Answer	Predominantly manual workers in the labour force	Predominantly knowledge workers in the labour force
Yes		
No		

4. Please indicate if you want a summary of the main findings of this survey.

Yes	
No	

Thank you for your co-operation.

ANNEXURE C

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